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Proceedings of the Seventh Conference of the Madras Geographical Association, Tanjore Session, May 1937

The Seventh Conference of the Madras Geographical Association was held in the Kalyanasundaram High School, Tanjore on the 6th, 7th, and 8th May 1937, under the Presidency of M.R.Ry. Rao Saheb C. M. Ramachandra Chettiar Avl., B.A., B.L., F.R.G.S., President, District Educational Council, Coimbatore, in the unavoidable absence of the President-elect, Mr. K. S. Vakil, M.A., M.Ed. (Leeds), F.R.G.S., Principal, S. M. T. Training College, Kolhapur.

The Opening Session of the Conference commenced at 4 p.m. on Thursday the 6th May 1937 at the spacious Educational Conference Pandal before a large gathering of visitors and members. Among the latter the following were present :—Mr. T. B. R. Davey (Tanjore), Mr. K. Srinivasa Raghavan (Adyar), Mr. M. S. Sabhesan (Madras), Mr. C. S. Subbarathnam (Coimbatore), Mr. K. S. Gopalan (Tanjore), Mr. C. Elisha (Cuddappah), Mr. N. Subrahmanyam (Madras), Mr. V. Thiruvengadatha Iyengar (Tiruvadi), Mr. T. S. Sundaram Ayyar (Ambasamudram), Mr. C. Ragunathan (Saidapet), Mr. V. Guruswami Sastri (Tirukkattupallee), Mr. A. V. Sundaresan (Salem), Mr. V. N. Kuppuswami Iyengar (Tanjore), Mr. R. Ramakrishnan (Udumalpet), Mr. N. Rangaswami (Kumbakonam), Mr. V. Thyagarajan (Mylapore), Mr. M. R. Rangaswami Iyengar (Uthamapalayam), Mr. J. N. Paramasivam Pillai (Gopichettipalayam), Mr. A. N. Schwartz (Madras), Mr. N. S. Narasimhan (Trichinopoly), Mr. K. S. Chandrasekaran (Mylapore), Mr. T. S. Velayutham Pillai (Orathanad), Mr. T. S. Suryanarayana (Madras), Mr. V. Bhuvaraha Iyengar (Tanjore), Mr. V. S. Krishnaswami (Conjeevaram), Mr. A. Ratnaswami (Tanjore) and Mr. C. M. Ramachandra Chettiar (Coimbatore).

Mr. S. Ramalingaswami, B.A., B.L., President, District Educational Council, Tanjore and Chairman of the Reception Committee, welcomed the delegates and visitors with an Address (Printed below). Mr. Rao Saheb C. M. Ramachandra Chettiar was then formally proposed as President of the Conference by Mr. T. S. Sundaram Iyer (Ambasamudram), seconded by Mr. M. R. Rangaswami Iyengar (Uthamapalayam), and supported by Mr. N. Rangaswami (Kumbakonam). After he was installed in the chair, the President delivered his address (also printed below). After the Presidential Address was over, Mr. N. Subrahmanyam, Secretary of the Association made a statement regarding the aims and objects as well as the achievements and various activities of the Association.

The Second Session began at 2 p.m. on Friday the 8th May, when the following papers were read and discussed :—

(i) *The Physical Geography of Tanjore District* by Mr. K. S. Chandrasekharan ;

(ii) *Place-names of Tanjore District* by Pandit N. V. Shastri ;

(iii) *Public Health of Kumbakonam* by Mr. L. S. Ramachandran ; and

(iv) *Crime and Litigation in relation to Environment* by Mr. S. Raju.

The Concluding Session of the Conference commenced at 1 p.m. on Saturday the 8th May when Mr. N. Subrahmanyam read a paper on " The Communication-Lines and Town-sites of Tanjore District." Mr. K. Santanam then addressed the audience on " Geography from the National Point of View ". Mr. K. Srinivasa Raghavan read his paper on " The Population of Tanjore District ", after which the following papers were taken as read for want of time and owing to the absence of their authors :—

(i) *Climate of Tanjore District* by Mr. S. Muthukrishna Das.

(ii) *Economic Geography of Tanjore District* by Mr. V. Aravamuda Iyengar.

(iii) *Cottage Industries of Tanjore District* by Mr. V. Thiruvengadatha Iyengar.

(iv) *Historical Geography of the Cauvery Delta* by Mr. T. B. R. Davey.

(v) *Geographical Basis of the Human Geography of Tanjore District* by Mr. S. Muthukrishna Iyer.

After the Concluding Address of the President, the Conference came to a close with a vote of thanks.

[The Addresses and the Papers of the Tanjore Conference are published partly in this number ; and the rest will be printed in the next number of the Journal.—Editor.]

Welcome Address

By

Mr. S. Ramalingaswami, B.A., B.L.
(The Chairman of the Reception Committee)

Ladies and Gentlemen,

My first duty is to extend to you on behalf of the Reception Committee our very cordial welcome to this ancient city, rich in its historic association, rich also in the monuments that speak to us of the glories of a by-gone age in our history. Perhaps this is not the period of the year when you can realise and appreciate the beauties of the city and its historical associations. I only hope you will be satisfied with such arrangements as we have been able to make for your comfortable stay amidst us, and for increasing your knowledge of the geography and history of this city and district.

My next duty is to apologise for my inability to present you with any learned address either on the geography of the district or on the wider questions of general interest in the teaching of geography, with which from day to day you are brought face to face. I have so clear a conception of my inadequate equipment for the task that the Reception Committee has called on me to discharge, that I have often been wondering why they had come to me in preference to half-a-dozen names that I could at random suggest, even from among my present audience.

The teaching of geography, I am assured has advanced considerably since my own school days; men like me have had neither the leisure nor the incentive to devote more than a passing thought to the subject at all. I should be guilty of presumption in addressing an audience of this character if I were to stress the obvious; but standing here, it is impossible to resist the temptation to draw your attention to the two clearly marked natural divisions into which the district falls. There is first the delta of the Cauvery, of whose potentiality and fertility many voices give the praise, a large alluvial, even plain of paddy fields, mango-groves and cocoanut topes, ending in an even stretch of sandy sea-shore, barely if at all presenting any picturesque sight, such as we see in the more indented coastline of some other countries. The rest of the district is included in the other division, the up-

land tracts. And from this city, you can see the land rising above the surrounding level to form a small plateau, broken by ridges of grits and sandstone, known by the name of Vallam. It has a miniature fort; and what is more is in deserved esteem for its spring of mineral waters, to which every Sunday thousands resort. I refer to this geographical division of the district, because it throws light on the reason why successive dynasties of kings beginning from the Cholas at a very early period, made this city the capital of their kingdom. Its attraction from the point of view of climate and health must have been great indeed; and in view of the oppressive heat of the day, I may invite the delegates to an evening stroll along the road to Vallam for them to recognise the salubrious character of the city, standing as it does at the head of the parting or the differentiation from each other of the two main physical divisions of this district.

I must not, however, be parochial. It has struck me from such attention as I have been able to devote to the matter that if the proper study of mankind be indeed man, as the old Poet solemnly assured us, we can by no means safely exclude from such study the wide space of the world which man has made his home. And if we bring an informed mind to such a study we shall easily find an answer to those problems of political and economic supremacy of one people or one country over another that now vexes the heart and entangles the feet of so many of our statesmen and thinkers. A merely geographical explanation of the facts of history may have, I quite grant, as much danger lurking in it as the purely economic interpretation of the facts of history on which some Socialists base their creed and dogmas. Still it is demonstrable that in order clearly to evaluate economic and political history, it is not enough that we should have an elementary knowledge of political and economic geography; it is not enough for us to picture the land as grouped into Continents. Another picture must be added, namely of land grouped in solar or astronomical zones which roughly correspond to zones of climate. I have not the time now to follow in detail what I think is a factor of great consequence in such study; namely, the study of strategic or military geography which is a derivative from this study. The solar zones are marked by four parallels of latitude which register the limits of a vertical and horizontal noon-day sun. North of the Arctic parallel there are about three million square miles of land, relatively little of which is reckoned habitable, and there is no inter-oceanic sea-way on account of the prevailing ice. South of the Antarctic circle there is computed to be about five and half

million square miles of land, almost all of which is considered uninhabitable. Consequently most of the important land lies in the North Temperate, Tropical and South Temperate Zones.

Now the distribution of this land brings to the trained mind of the teacher of geography problems of what I may call the geography of population and efficiency, the distribution of rainfall, the course of the trade winds and their effect on the fertility of soil and the expansion of population, the resources of production of the minerals and such other commodities, the sea and other natural frontiers that unite as much as they divide populations and countries, the main lines of traffic by land and sea, the centres of human activity and the factors that conduce, geographically speaking, for such activity and concentration. From this the student of geography naturally turns to questions of birth-rate and the relative efficiency of Oriental and Occidental, and the hundred other problems connected with the maintenance of world peace that hang on this vital question.

I am not putting forth Geography as the compendium of human wisdom, or as providing us with the one key to all our perplexing problems. I only advocate that its just claims and its capacity for rendering us such vast service be adequately realised both by students and teachers. It is to-day a common-place that the greatest civilisations of the ancient world—those of India, the Euphrates region, Egypt and China, came into being in lands of unusual fertility, where men were not hard put to it for the sheer necessaries of existence, and had the means and the leisure to evolve those standards of comfort which lead to the realisation of a form of life in which the barbaric animal elements in human nature is subordinated to an ordered and peaceful association. A particularly forceful Oxford Professor of History some years ago contrasted these civilisations with those of Rome and Greece. The latter, he averred, involved civilisations due to intercourse, which also includes an element of strife, while those of the Oriental world sprang from ease of life. Now we shall not pause to enquire into the truth of it, though the contraction and quiescence of Asia these long centuries seem to indicate that ease of life is often synonymous with decadence. Is it necessarily so ? Here teachers of geography can help us ; and the teacher in this country is in a peculiar position ; because, as one of my predecessors in this chair said, our country provides an emporium of historical and geographical knowledge. Are the Occidental peoples by any means bound to be the victors in a contest for supremacy with the Orientals and are these latter

by the incidents of their geographical and climatic conditions always bound to go under in any such contest ?

Again, if one looks at a map of the world, one will see that the continental areas of the old and the new world approach close to one another at the shores of the Behring Strait. Some day it may become the termini of great railways or great airways. The student of geography will recognise that the path of economic, and consequently in some measure, also, the path of political development, during historic times, has been determined by continuity of climatic conditions not by continuity of land. From the warm half of the North Temperate Zone in Asia and the lands of the Levant, it spread westward across Europe and northern Africa. The Atlantic being in the then state of navigation impassable, the course of development followed the march it did ; till once again with the colonisation of America came also the eastward trend of oceanic commerce, leading eventually to the establishment by Europe of extensive political supremacy over the East. The Tropical lands of the Old World have nowhere become the home of a European peasantry. We have indisputable evidence that neither courage nor endurance had deteriorated in the men of the East ; and that both town and country during the Great War furnished many of the best battalions. I state these facts here not that we may plunge into a controversy that is not there ; but as indicating the lines on which you, teachers of geography, can try to be of use not only in the immediate task of the class-room or the lecture halls, but in bringing freshness of outlook and breadth of scientific knowledge to the elucidation of the complex problems of a world where the clash of colour competes with din of armaments in drowning the voices of reason and peace. I am much heartened in pressing this view of the unity of Geography, when I find the Memorandum on the teaching of Geography, issued by the Incorporated Association of Assistant Masters in Secondary Schools in Great Britain stressing that regional geography, important as it undoubtedly is, is not all. Here are the operative words. " Useful as the regional method is as an instrument of analysis, the fundamental unit that Geography deals with is the world ; and the existence of what are commonly referred to as " World Problems " the growing feeling of the unity of the world in an economic sense and its possible development into a unity in a political sense, are matters which properly come within the sphere of geographical discussion. " World Relations " is a term that covers a multitude of questions that are of urgent importance to citizens of the modern world, and Geography may rightly claim to have a contribution to offer to their elucidation."

Ladies and Gentlemen, I have done. I am free to confess that, while I have had nothing of value to offer you, I have at least indicated to you the points, the problems, the issues that confront you. And seeing that the man who raises questions has at least half found the means to their unravelment, I trust my address shall not have been wholly in vain. Laymen as we are, we can only posit these and similar questions. It is for you, gentlemen, daily engaged in both the study and the teaching of Geography, to give us the benefit of your counsel. I thank you once again, gentlemen, and beseech you to overlook if in any degree our arrangements for your comfort and convenience here, during a trying part of the year, fall short of the ideal.

Presidential Address

By

Rao Saheb C. M. Ramachandra Chettiar, B.A., B.L., F.R.G.S.

It is a matter perhaps of mere chance or rather a favour by the Grace of Providence that I find myself seated in this exalted position as the President of a Conference where the useful subject of Geography would be treated as an exact science, which I never dreamt that I would occupy, a few days ago. Professor K. S. Vakil had kindly consented to preside over the deliberations of this Conference, but owing to some unexpected indisposition, he is unable to take to such a long journey as to this warm place during an exacting summer season. In such a predicament my humble self has been called upon to occupy his place. A professor who had made a special study of this scientific subject and who devotes his life-time in imparting its knowledge to others and works for the furtherance of that knowledge in unexplored regions, would have been a fit and proper person to guide your deliberations. But I, who lack all those qualities, would perhaps be a sorry substitute in the matter of giving a proper scientific guidance to your deliberations. I may say that the study of Geography has been merely a hobby to me, to which I could devote a few spare minutes besides other hobbies in the midst of my professional work. Even during my College course in education I had not been blessed with a tutoring either in Geography or in its allied subject History, but I had to devote my youthful days to the study of Physics which, I then thought, had not the slightest connection with either Geography or History. But fate would have it that as days rolled on, I slowly began to forget everything of Physics and in its stead Geography and History with the allied subjects of Archaeology and Ethnology occupied its place. I am bold enough to say that any one who studies a subject by way of hobby gets more of proficiency in it than if he does it as a subject for examination. The study of Geography, if it is treated as a hobby by a layman, becomes one of considerable interest and pleasure. I entreat you, therefore, to treat the study of such a science as one of hobby rather than one of duty. I thank you one and all and especially the Executive Body of the Geographical Association for giving me an opportunity to preside over the deliberations of this Conference inasmuch as I would be able to get a wider and more practical knowledge on the various

aspects of the science which would be treated in the course of these three days.

Gentlemen, some years ago the science of Geography was thought to be an insignificant subject which could be finished in a short period before one completes his S. S. L. C. course. But now such an idea has been modified to a considerable extent. Our eminent educationists have now come to the conclusion that this science would be made the subject of study for the higher courses of the University. In the West it had gained that unique distinction in most of the universities. A number of non-university associations have been started both in Europe and America which devote their full time for the development and dissemination of this science. A great many high class magazines have been started which spread knowledge throughout the length and breadth of the world, disseminating it to the most distant parts in the land. Expeditions have been made by eminent professors in search of new fields still unexplored at considerable expenditure, and treatises have been published making the discoveries a matter of public knowledge. Our people, who may think that sacrifice of life in exploring the icy wastes of the South Pole and fruitless climbing of the unimaginable heights of Mount Everest, have been merely the results of a mad or diseased brain, are slowly modifying their ideas and have begun to take interest in such adventurous pursuits. Even in our country, associations for the study of Geography have been formed, risky excursions are undertaken and interesting and illustrated magazines are being published. The very existence of this annual function is a proof of the interest which our people, especially the teaching population among us, evince in the acquisition of knowledge in this subject of great utility and of intense interest.

Geography is no longer a subject of mere names of places and of various physical features, but it has grown to be a science of humanity, an all-embracing one with considerable utility for man. It is a study not only of the features of the inanimate world but it is also one of the living world, and still more a study of the combined non-living and of the living world. It deals with the various relationships between the living and the non-living, and deals chiefly with the various modes with which the living can utilise the non-living for its benefits. Hence in its entire field every other science can in some way or other form a part and parcel or a regular limb of this all-embracing science. It is therefore worth one's while to devote one's spare moments for the study of some portion or other of this highly useful subject.

Happiness is one of the ultimate objects of education and study. Pleasure is the earlier stage which in course of time might develop into happiness. Among the various sciences which give pleasure to the human mind, Geography may stand foremost. An excursion to a hill or a water-fall, to a big city or its places of beauty, pleasure and utility, to a sea-coast or a place of bath near it, to an industrial centre or to a place of scientific invention, these and a lot of similar matters make one's heart to leap at the thought, to grasp an idea and to join a party and ultimately to enjoy the treat when the trip is undertaken. The pleasure at the mere proposal ends in actual enjoyment in course of time. A young student, an over-worked official, a busy lawyer, a sound businessman and an old pensioner, all these gentlemen without any restriction of age or status equally evince interest in excursion parties. The increase in the number of pilgrimage parties in our country shows which way the wind blows. Not only the Hindu pilgrim of the past but his counter-part of the present day has the ideas of the study of humanity both as a matter of pleasure and of education, which broadens his mentality when he takes to a pilgrimage along with his primary object of getting religious efficacy.

Apart from the pleasure which one derives from excursions, the economic utility of the knowledge of the world, of its population and of its products, has greater attraction to a practical man who makes a study of the science. Economic or Commercial Geography is one of the most important subjects in the present day world. Every progressive nation devotes considerable attention towards that subject. We Indians lag behind other nations in giving sufficient importance to its study. If our country desires to improve its resources, we ought to make a thorough study of the economic conditions of every part of the world besides our own. A country entirely producing raw-materials and depending on the export of them for prosperity ought to be able to find out useful markets for the disposal of their products. Our trade is in its low ebb often and on ; and unless we are able to make a practical and useful economic survey of the world, we would not be able to stand firm in the field of competition. Therefore, on the score of utility also a study of Geography is essential to our people.

Gentlemen, with these few general remarks, I intend to take you to a special subject which may be of interest to you as well as to me who is a lawyer by profession, the subject being *The Geographical Distribution of Crime and Litigation in South India.*

Anybody interested in Geography may ask a very pertinent question as to what relationship there exists between Geography and the extent of criminality and litigation. Gentlemen, you know that there are three cardinal tests for a subject to be treated in a geographical way :—(i) It must be any aspect of human life or activity, (ii) treated in relation to environment, (iii) with a regional background. Our subject will stand all these three tests.

THE GEOGRAPHICAL DISTRIBUTION OF CRIME AND CIVIL LITIGATION IN SOUTH INDIA.

At a Durbar held at Coimbatore for the investiture and the granting of the Sannath of Title to the then Public Prosecutor for his services in judicial administration the then Collector surveyed the position of Crime in the district and enumerated the possible causes which are generally attributed for the predominence of crime in the district. Among those causes were (1) the prevalence of Cholam as the staple food for the majority of the people which had the effect of stimulating the brutal nature in man (2) the everlasting hostility between various castes or tribes which nurtured the factious spirit of man (3) the scarcity of fertile land which created keen desire to possess even an inch of ground and not to be disturbed on any account (4) the increasing drinking habit among the lower and middle classes to the detriment of the country and (5) the sexual impulses and jealousies which an ordinary man could not control in times of emotion and such kindred causes. In the end he observed that general education would raise the civilisation of the people and would slowly diminish crime in the district.

It is a matter for regret that the district which is considered to be a foremost one from various points of view and which was very low even in the matter of crime and litigation some years ago should have risen higher and higher in the scale in both these aspects and should have beaten most of the other districts in quantity. The earlier history of the land does not denote much of crime and litigation except for the existence of communal disputes between Vettuvans and Vellalas in the matter of possession of land and authority. But yet to-day we find that the district beats others both in crime and litigation. A study into the causes which gave rise to such an abnormal increase is worth undertaking. In doing so, we shall compare it with the other parts of the Presidency.

South India could be divided for our purposes into four regions viz., the East Coast, the West Coast, the Central region and the Ceded Districts. For each region we may take one district as a typi-

cal example. For instance, for the east coast Tanjore, for the west coast Malabar, for the Central region Coimbatore and for the Ceded Districts Cuddappa. Statistics in crime and civil litigation give us a fund of information about the state of affairs in each region. With the help of statistics we can form an idea as to how far the reputed causes for the increase in crime and litigation justify such an increase. The immediate causes for grave crimes are generally said to be drink, sexual jealousy, land dispute, avarice or need of money, religious fanaticism and poverty. The underlying causes are said to be diet, illiteracy, climatic conditions, physical features and other environmental factors, mode of livelihood and habits of the people. Advancement in literacy and civilisation is often said to lessen crime and litigation. But statistics in South India and our personal experience indicate otherwise. The development of thought, advancement in science and betterment in the means of livelihood instead of doing away with crime and litigation intensify and even magnify them. A better method of investigation may be necessary to understand the true implication. Preventive measures by way of bettering the character of the people should be resorted to instead of punishment which is the modern method of retribution. Crime and litigation should be regarded as the outcome of moral and mental disease in man and unless such a disease is cured by the betterment of character, the present state of affairs could not be hoped to be remedied.

State of litigation in the country.—Figures undoubtedly prove that litigation is on the increase. The increase of population may be one of the causes. Economic conditions especially in possessing land for the production of food-stuffs and for improving wealth through trade create considerable amount of litigation which could not be avoided, but have to be decided by a court of law. Hence, civilisation affords grounds for the increase in litigation. Various other factors like war etc., tend to the growth of or decrease in litigation. The very reason that the number of courts in the country had to be increased several-fold show that litigation is always on the increase. The figures for the last five years show that there was a steady increase from 1930 to 1932 and then decrease from 1932 to 1934.

1930	551,779	1933	632,964
1931	627,465	1934	578,170
1932	646,561		

The fall from 1932 to 1934 is due to the world depression which affected India as it did every other country.

The year 1932 seems to have achieved the highest record in litigation. Even district-war figures prove it.

There has been some change in the matter of quantity and intensity in litigation between various tracts during the last five years. *The West Coast* has always been heading the list. Malabar with a population of 3½ millions having always shrewd intellect and a fighting brain had a ratio of 45 persons for every suit in 1930, 41 in 1932 and 43 in 1934. The percentage of litigation being 13.04 in 1930, 13.65 in 1932 and 14.61 in 1934 when compared with the Presidency figures. *The East Coast* used to rank second in litigation. Tanjore, its typical district, has a population of 2 1|3 millions. It polled in 1930 66 persons per suit and 60 in 1932 and 68 in 1934, the corresponding percentage being 6.73, 6.33, 6.28 respectively. Hence, Tanjore came second in the list in 1930, third in 1932-33 and fourth in 1934. The state of affairs in Tanjore therefore showed improvement. It may be mentioned here that both the districts of Malabar and Tanjore had to be divided into two districts each to cope up with the increase of judicial work.

Now let us take *the central region* with Coimbatore, which has a population of 2.66 millions, as the typical example. In 1930 the ratio between population and suit was 69, i.e., the district was the 6th in the list. In 1932 it increased, having polled 63 persons per suit. In 1934 it had 75 per suit, going one step below to the 3rd rank, at the same time keeping ahead of Tanjore. The corresponding percentage is 6.35 in 1930, 6.55 in 1932 and 6.16 in 1934. Now coming to the Ceded Districts with Cuddappa with a population of 9½ lakhs as the typical example we find that the ratio is only 158, 98, and 108 in those years. The percentage also is 1.64, 1.53 and 1.57 respectively. The district occupies the 21st place in 1930 and 1934.

The above-said figures will prove that the fertile lands of Malabar and Tanjore are prominent in litigation, while dry Cuddappa is at the lowest. But Coimbatore, though dry, competes with Tanjore and even beats it. All these three districts are above the Presidency average, each being 77, 72 and 81 respectively in those years.

The number of Courts in a district often denotes the increase in litigation; e.g., while Malabar has 19, and Tanjore 11 Munsif's Courts, Coimbatore has 8 and Cuddappa 3. The intensity in litigation is gauged by the increased number in title suits. Malabar, the most litigious district had, in 1934, 7300 title suits and 3878 money suits. Tanjore had only 922 title suits and 2392 money

suits. But in Coimbatore within a period of 5 years the number of title suits has increased. Money suits were double that of title suits in 1930; but in 1934 they were almost equal, being 2389 and 2917. In Cuddappa, on the other hand, money suits are four times the title suits, being 335 and 1365. Hence, it will be clear that even in the matter of intensity of litigation Coimbatore has begun to compete with Tanjore.

Another important aspect which would gauge the real situation is insolvency. It used to be said that the Law of Insolvency is meant for the commercial public. But in our country it is resorted to more by the landed public which is really regrettable. Otherwise, Coimbatore district will never shine in this sphere of insolvency. But we are glad to note that of late the number is decreasing. While Malabar had polled 237 cases in 1933 and Tanjore 351, Coimbatore had 674 and Cuddappa·322. In 1934 the figures were 284, 389, 463 and 301 respectively. It may be pointed out that the drier districts of Coimbatore and Cuddappa seem to score more insolvency. The reason may be due to the fall of price of land, due to fall in the prices of food-stuffs.

Criminal Aspect.—I give hereunder the figures showing the number of cases and appeals which came before the criminal courts in the various districts. They show that in 1931 Malabar stood second in the Presidency, Coimbatore 4th, Tanjore 5th, and Cuddappa 23rd. In the next year Malabar retained its second rank, Coimbatore fell to the 5th place, Tanjore to the 6th, and Cuddappa rose to the 21st place, the percentages being 7.10, 5,88, 5,45 and 2.04 respectively.

If we take graver crimes which are committed to the Sessions Court Coimbatore surpasses all other districts. The following figures speak for themselves.

	1931		1932	
	Total	Percentage	Total	Percentage
Cuddappa	194	62.44	169	61.41
Coimbatore	39	43.05	69	48.70
Malabar	111	50	130	
Tanjore	107		99	

It will be seen that Coimbatore district ranks very high in the matter of Sessions cases. During the 5 years ending 1930 the average number of sessions trials was 76 per year. That year it

rose to 170. Now the figures have again risen up during the past five years up to 1936.

The above-said abnormal increase induces one to make a more elaborate study in the matter of graver crimes in the district.

On analysing the first 120 cases committed to and tried by the Sessions Courts at Coimbatore during the year 1936, the following results are arrived at.

			Totals
1.	Violent crimes against the body		
	1. Murder	50	57
	2. Cul. hom.	4	
	3. Rioting	2	
	4. Gr. hurt	1	
2.	Crimes against property, moral turpitude		
	1. Theft	16	36
	2. House breaking	13	
	3. Robbery and dacoity	5	
	4. Fire	2	
3.	Crimes against morals		
	1. Rape	1	4
	2. Abduction	3	
4.	Landed crimes		
	1. False charge	3	17
	2. Forgery	14	
5.	Others		6
			120

In society persons come into contact in their daily avocations either with the members of their family or with outside public. People who are emotional in temperament easily become a prey to commit offences first against the body, and then against property. People who are less emotional and are not easily irritable take to deeper crimes against property at the first instance. People who are civilised and had become more cunning and subtle resort to graver and deeper crimes like forgery, etc. Districts like Coimbatore where people in the rural areas are still in a semi-civilised state are easily affected by emotions, and hence resort to violent crimes like murder and homicide.

Of graver and more violent crimes, murder stands foremost being 50 in number. Of them, 14 were sentenced to death, 19 for

transportation and imprisonment, 17 acquitted. The Caste-war classification is as follows :—

Gounden	23		
Naicken	5		
Chetty	5	Mudaly, Vannan, Boyan,	
Thevan	2	Pillay, Andi, Reddi, Moop-	
Chukkly	4	pan, Asary,	
Koravan	2		1 each.
Barber	2		

In one case Hindus and Mussalmans generally were engaged in rioting.

The Goundans or the Kongu Vellalas form the foremost community in the district. They form the biggest single community having a population of over 6 lakhs. They are land-owners and cultivators of the soil and hence form the bulwark of the land. They are easily affected by land disputes. Even an inch of ground or a small water-course or the right to a palmyra tree or a tamarind tree standing on the edge would result in the chopping off of a head. A simple quarrel for 4 annas had ended in a murder. Life seems to be very cheap to them. The next biggest community are the chukklars who form 2 lakhs. They belong to the depressed classes and are the dirtiest and socially the most backward. But crime does not seem to be rampant among them. The other communities among the depressed classes are quite harmless. The criminal tribes of Koravas and Valiyas do not resort generally to violent crimes. They confine themselves to thefts and house-breaking. When compared with the other districts Coimbatore has very few communities belonging to the criminal tribes. The chief men among the land-owning communities still imagine that they are in the feudal days, and exercise a lot of unwarranted privileges over the illiterate, subordinate villagers especially in caste and religious matters. They expect utter obedience within the limits of their caste jurisdiction; and the slightest deviation in their conduct results in the spilling of blood without proper reason. But the recent elections would have taught a good lesson to these caste heads that their times of *zulum* are fast disappearing.

Motive, though not regarded in law as a prime factor for proof of a claim, is in practice an important factor upon which the truth of an offence is believed. The following classification, regarding the motives which led to the 50 murders committed to the Sessions, is worth studying.

Family quarrel	12	Jealousy	2
Suspicion about immorality	10	Caste dispute	2
Property dispute	6	Private grudge	2
Toddy Shop quarrel	6	Vengeance	1
Money quarrel	3	To foist false charge	1
For money's sake	3	Hunger	1
		Water dispute	1
		Total	50

In this district family quarrels between husband and wife, between brothers and other co-parceners and other members of the family stand formost in the responsibility for spilling human blood. Suspicion of immorality on the part of the wife or other closer relative comes next. Property, money and water disputes stand at the third place. Toddy shop comes next. There was a rare case of murder due to the pinching of the stomach that occurred recently. Murder in order to foist a false charge upon an enemy is another rare instance. In 1888 a man gave his own child to the sacrificial alter in order to get an imaginary wealth and quite recently another instance of sacrifice of a 12-year-old boy before the village deity by the village pujari himself occurred in the taluk of Pollachi; and the offender said that there was a call from the other world for him to do so. Some of the causes abovesaid are not such as to provoke a man to take to such a violent crime. But yet in this district instances are becoming more common and any amount of dire punishment has not checked the course of crime. Good breeding would soften the temperament of man and may prevent such violent offences against society. The deeper crimes of premeditation which occur in the West like slow poisoning is utterly absent in the district. Aruval, Eeti, valayam, bichuva are some of the rough and ready weapons which are generally used for committing murder in this land. The very nature of the instrument shows that the offence would be unpremeditated. The aggressor generally has no time to think about. In the midst of emotion he handles anything which he comes by. To prevent such crimes softening of the nature of the brutal nature in man is necessary. Education and the building of character would be the only method which would put a stop to such predominence of crime.

General impressions and how far they are justified.—Regarding the territorial distribution of crime and litigation in our country, certain general notions exist among the public, and even the

educated and the professionals have formed such general impressions. If we carefully scrutinise those impressions they may after all not stand any critical test. Let us deal with some of them hereunder.

1. In the absence of civil courts in a particular locality people are prone to resort to crime in order to get the required relief and resort to criminal courts instead of getting the same relief in a civil court which is denied to them. With this view people used to agitate for the location of civil courts wherever criminal work is abundant. Some years ago there was a similar agitation for the installation of Munsif's courts at Dharapuram and Gobi. But experience shows that the establishment of Munsif's courts at the two places has not lessened criminal work in any way. The more the number of courts the more anxious people seem to be to resort to litigation, both civil and criminal.

2. It used to be said that fertile lands produce more of civil litigation, while dry lands more of crime. Similarly, it is generally thought that civilisation and refinement drive the litigants to civil courts, while savagery and rude life to crimes and consequently to criminal courts. The latter idea may be a little truer than the former. The more civilised and refined the people are the more subtle is their intellect, and the litigation which they set up would be equally intricate. The less civilised people would have no patience for postponed justice and would be prone to resort to more rough and ready methods in getting redress.

The nature of the soil is in a way responsible for the character of the inhabitants. Fertile lands attract people more and more, and the wealth which they produce make them more refined. In our country the east and the west coasts are more fertile than the central regions and the Ceded Districts. They have thicker population, and institutions for rendering justice are comparatively greater. The literates in the coastal districts are on the increase, and hence according to the above said impressions they must head in civil litigation while the central regions in criminal work.

Taking the figures into consideration we find that in civil litigation Malabar and Tanjore stand the first and the second while Coimbatore and Cuddappa the 6th and the 21st in 1930. But by the year 1934 there was a slight change. Malabar and Tanjore were the first and the 4th while Coimbatore and Cuddappa the 3rd and the 21st. Hence we see that the dry district of Coimbatore is falsifying the general impression. In crime we have seen that Malabar though a fertile land stands foremost. By the way, the

increase of litigation in Coimbatore is also due to the increasing wealth of the place recently, due to several causes.

3. Another important impression is that the ratio between title suits and money suits have also a similar proportion. In the Ceded Districts title suits are even now very low when compared with money suits. In North Malabar title suits are more than money suits. But in South Malabar money suits are more in number. In Tanjore both were equal, in 1930. But money suits began to increase in course of time and in 1934 they were double that of title suits.

But Coimbatore baffles such deduction in generalisation. It is a dry district and so ought to have more money suits. In 1930 money suits were double that of title suits. But in 1934 title suits have increased and have become almost equal.

It may be curious to note that in certain dry districts punja lands with garden cultivation have become more valuable than nanja lands in fertile districts. Kanuvakkara, a village at the north-eastern extremity of Avanashi taluk which gave rise to a number of murders recently, has tobacco garden lands worth Rs. 6,000 to 10,000 per acre ; and Punkampalayam a village with undulating ground lying west of Karamadai, an equally dry place, sells at Rs. 3,000 per acre, while the best arecanut tope at Kallar with everlasting water-supply would not fetch Rs. 2,500 per acre. Such abnormal values of land sometimes invoke hatred, jealousy, litigation and crime The more valuable the land the less immobile it becomes and the more contentious the owners become. Not even one inch of land in the fertile Kallar valley belongs to the original or indigenous owners to-day.

4. Another general impression is that *diet* is to a certain extent responsible for the irritable character in man and that it provokes violent crimes to a certain extent. The staple food in Coimbatore district consists mainly of Cholam and Kambu, the other grains coming thereafter. The impression is that Cholam is more irritative and *thamasic* in character than paddy as food. But Kambu they say is a cooler and more healthy food. The following are the agricultural figures in this district, for a recent quinquennium :—

1.	Cholam	707,642 acres.
2.	Kambu	607,523 acres.
3.	Paddy	93,175 acres.

From the above, it will be found that Cholam though extensively grown has an equal rival in Kambu and hence, its virility

is lessened by half. Moreover, Cholam has ceased to be the favourite of the people. The veriest villager likes paddy and exchanges it for paddy even to his disadvantage. In the experiences of the Judges and Magistrates, it has become a regular appeal by the prisoners to get rice diet instead of Cholam or ragi. Under such circumstances, if paddy has replaced cholam in regular meals, it can no longer be the case that diet could be responsible for the maintainability of the number in crimes. It is a known fact that crime has not decreased though the kind of food has been changed.

It would be truer if we say that instead of the diet being responsible for the increase in crimes, the indulgence of the people in *animal sacrifices* could be reckoned as one of the reasons for the increase in crime. Animal sacrifices would harden the feelings of man; and the knife which chops off the head of a goat or a sheep would as easily chop off the head of a human being without the slightest pity or remorse. The highest criminal tracts in the district give the largest figures for animal sacrifices. Portions of Dharapuram and Erode taluks have a number of village deities which thirst for animal blood in unimaginable quantity. In such places it cannot but be expected that the human mind would reflect a similar attitude in the spilling of blood. Some time ago I had occasion to call for the census of the animal sacrifices in this district; and the huge number I got rather staggered my conscience. It may not be too much to say that such a thirst for animal blood would equally influence in taking away human blood even as a reflex action.

5. Another idea prevalent among the people is that with the increase of civilisation, litigation and crime will decrease. With the advancement in literacy, civilisation will certainly rise and hence as a result litigation and crime will decrease. But actual facts disprove the truth of the above-said notion; and the decrease in litigation due to the improvement in literacy is not perceptible.

6. There used to be a general impression that life in the country side is happier and healthier than that in towns. But experience in our country would prove otherwise. The factious spirit and the insanitation in the villages would never allow a man to be happy or healthy in a village. In fact, we may even despair if life and property could ever be safe in the village. The slogan "go back to the villages" is impracticable for the present, and is merely a cry in the wilderness for all practical purposes. It is being indulged in only by a few idealists who have seen litte of the realities of practical life in a village.

There is another impression that certain castes indulge more in litigation as opportunity occurs. As regards the latter, it is true that in certain districts, some tribes have left off their criminal habits especially thieving. Education and settlement in life would remedy this habit in course of time. In fact, a number of people belonging to these communities have taken to honest labour like agriculture and other professions. There is a general impression that the Criminal Tribes Act is now abused to a certain extent. A boy belonging to the tribe is prone to become a delinquent, and then a habitual, if he is registered and kept under suspicion and surveillance. If he had been more honourably treated, he might not fall a prey to such a life. Over-enthusiasm in enlisting members under the Act by certain subordinate officers in order to gain personal distinction in service has been rather a dangerous thing to the safety of the country.

8. That blind religious fervour and fanaticism lead to violent crime is another impression. In South India our docile Hindus used to think that the Muhammadan neighbours are generally ferocious in character and are prone to take to violence without sufficient cause. This idea may be due to the wrong impressions formed from wrong study of history especially of the Afghan and Moghul periods. It is a well-known fact that crime due to religious fervour, fanaticism and bigotry is rare in South India. North India may give a different picture. But we are concerned with South India; and the number of cases due to inter-religious disputes could be counted with the fingers of one hand. Of late, the only case involving differences between the Hindus and the Muhammadans arose at Kollegal, due to the mischief set up by a fanatic during the procession of a deity regarding the cessation of music before a mosque. The result was an old Muhammadan was killed and a number of Hindus were charge-sheeted for rioting and murder. The case ended in acquittal. Somehow it so happens that in all such cases the aggressive party is always worsted. One other instance wherein bloodshed was due to religious fervour which augmented to high pitch by the prohibitive order issued by the Government took place at Tanjore in the famous case of Veerasingampettai. It is a rare instance and is due to the prohibition of a longstanding custom, however bad it may be. South India is fortunate in not having many such instances.

The above said instances which give popular impressions and notions may prove that after all we have to revise our views in the light of hard facts and correct proofs.

Address

By

PROF. K. S. VAKIL, M.ED. (LEEDS), M.R.S.T., F.R.G.S.,
President-elect of the 7th Madras Geographical Conference.

Ladies and Gentlemen,

I thank you very much, indeed, for inviting me to preside over your Seventh Geographical Conference. I certainly feel very grateful to you for the invitation, since it would have given me an opportunity of coming into close touch with you and your varied activities. I regret, however, that the present state of my health has not permitted me to do so in person.

Yours, so far as I know, is the only Geographical Association in India that has steadily worked on since its start and done solid work in the field of Geography. Your Journal, your annual conferences, your summer schools, your regional surveys, your excursions to places of interest in the country, your refresher courses for teachers, and several other allied activities bear ample testimony to your many-sided interests, and the institution of a Diploma in Geography by the University of Madras marks the high degree of success you have already achieved in the field. I am sure that if you continue your work with the same energy and zeal, you will succeed eventually in securing for Geography a place as a Degree subject in the scheme of University studies. (Geography has already been constituted as a Degree subject in the University of Madras—*Editor.*) I exhort you to pursue this aim steadfastly and not to relax your pressure on the University authorities in the matter, until you have achieved it. Recognition of Geography as a Degree subject by your University will serve as an example to other Universities in the country and gradually lead to its general recognition as a subject of University grade. Without such recognition, we cannot expect the subject to be treated with respect or its study to be pursued by students and teachers much beyond the school stage. In the absence of such recognition, teachers entering training colleges are led to look upon it as a subject which they can take as their special method subject, even though they do not possess the necessary background of knowledge of it. They take English, Sanskrit, History, Mathematics, or Science only if they have studied it previously as an optional subject for the B.A. or B.Sc. Examination, but they take Geography and attempt to study

methods of teaching it although they have never before studied it except during their school course. Such teachers on their return to schools as teachers of Geography proceed to teach the subject as if they knew it well enough and often make a complete mess of it. There is no doubt that Geography suffers on account of its late recognition as a subject of cultural value. Advanced countries have, however, made up for its neglect in the past and given Geography the place that is due to it in their schemes of education. Ours is, so far as I know, the only country which claims to be advanced but which still does not give Geography its rightful place in its schemes of school and University education. It is, therefore, our duty as teachers to press its claims to equality of treatment with other subjects on the attention of the school and University authorities.

To my mind, no subject of school or college study is so highly interesting and useful as Geography. It touches our life at every point. Our homes and habitations, our foods and drinks, our roads, and railways, our commerce and industry, all depend on our Geography—our natural environment. What we are today socially, industrially, and even politically we owe to our Geography. Geography explains how gaps in the natural defences of our frontiers led to repeated foreign invasions of this country in the past, what caused the failure of the people of the plains of India to withstand these invasions, what made Panipat the historic battlefield of North India, what makes Peshawar a military outpost of the utmost value, what makes Delhi the natural capital of India, and what has caused foreign domination of India and what has made it come to stay. A wild man in the jungle can live his life without any knowledge whatsoever of reading, writing, and ciphering. He can get on without the least knowledge of literature, history, mathematics, science and all the other subjects included in our school and college courses. But he cannot get on without a knowledge of Geography. He must know the Geography of the locality in which he lives so as to be able to carry on his business of life without inconvenience or hardship. He must know the local soil, the local climatic and seasonal conditions, the local products and means of transport, etc., so that he may be able to live usefully and efficiently. As soon as a baby begins to turn its eyes to the various things it sees lying around in the house and explore its environment, it begins, no matter how unconsciously, to study Geography.

Dr. Cousins who presided at your Fifth Conference put in a suggestion for *Geographising all education.* I endorse his sugges-

tion and strongly recommend you to strive to make Geography the central subject of study in Elementary schools and correlate all other studies to it. In these times, when everyone is calling for reconsruction of education on practical lines, it should not be difficult to frame a school curriculum on the basis of Geography—on the physial environment of the child—on local hills and valleys, heights and depressions, rivers and rivulets, plants and animals, products and industries, people and their occupations, manners, customs and modes of life, means of locomotion, etc. The earliest school activities may be given the form of nature stories, nature rambles, nature drawings, and modelling in sand and clay of local land forms. Language lessons may be based on stories of excursions to places of interest in the locality ; arithmetic lessons may be based on measurements of distances between the school and children's homes, the school and the temple, the school and the railway station, the police station, or the Revenue Office ; on calculations of prices of articles of daily use ; etc., etc. Tales of travel, exploration, and adventure, descriptions of journeys, voyages, and flights, by land, sea and air may be provided for study with a view to firing the imagination of the rising generation at school and college.

In the teaching of Geography, I believe that it is extremely desirable to emphasise the value of *Home Geography*. The teaching of the subject may, with advantage, begin with the home or the locality in which the pupils live and proceed stage by stage on concentric lines—from the town or village to the tahsil or taluka, from the taluka to the zilla, from the zilla or district to the province, from the province to the country, from the country to the continent, and from the continent to the wide, wide world. Unless the teaching starts from what is known and within the purview of the pupils, it is likely to fail to evoke their real interest in it. I would relate all geographical teaching to what is likely to be within their knowledge and experience. I would not conduct it on formal text-book lines. If there is any subject in the school curriculum which can be taught altogether without a text-book, it is Geography. What we need to teach it satisfactorily are visual aids—maps, charts, pictures, models, etc. If we use them freely and liberally and visualise our teaching, it cannot fail to fulfil its purpose.

Explanation of origins of *place-names* occurring in the course of Geography-teaching would, I believe, help considerably in making it interesting. For instance, explanation of the origins of such names as Madras, Pondicherry, Calcutta, Bombay, Allahabad,

Ahmedabad, Daulatabad, Bengal, Kathiawar, Bihar, Bijapur, Vijayanagar and Vasco da Gama, would throw a flood of light on their past history and enable the teacher to correlate his Geography-teaching to History-teaching.

In the teaching of Geography, nothing is, to my mind, so important as weekly talks to pupils on *current events*. Nothing broadens their general mental outlook and liberalises their social interests and sympathies so much as such weekly surveys of world events. Nothing is more helpful to the teacher in achieving the highest purpose of geography-teaching so much as these. A clear understanding of the events occurring in the world from day to day is highly educative in value. It enables the rising generation to encompass in their view all the peoples of the world, understand the relationships which bind them and the differences which divide them, and study the forces which have been steadily working to narrow down their differences and bring them closer together. It engenders in them a spirit of world citizenship—a spirit which it is so necessary for educators to encourage in the cause of general happiness of mankind.

Before I conclude this brief address, it would not, I believe, be out of place, in a Conference of geography-teachers such as this, if I mentioned *some common errors* in geography-teaching. There is a tendency among teachers, as most of you may have noticed, to confuse *north* with *up* and *south* with *down*, *country* with *continent*, *state* with *country*, *mouths* of rivers with their *sources*, *climate* with *temperature*, *products* with *industries* or *occupations*. There is a tendency to use the term "*mountains*" to signify sometimes "*mountain peaks*" and sometimes "*mountain ranges*"; to consider *plains* to be as flat as floors and *plateaus* to be as level as table-tops; to regard tributaries of rivers as their branches flowing away from the main streams; to treat glaciers, avalanches, and icebergs as if they were all the same or nearly so; to forget, while speaking of the slanting rays of the sun, that the sun's rays are all parallel to one another and that the slant of the so-called slanting rays is due to the slant or curvature of the earth's surface; to believe that the sun is overhead every noon at the equator; that the hot weather is caused by nearness of the sun to the earth; that the torrid zone includes all the hottest regions and the frigid zones all the coldest; that the frigid zones have snow everywhere all the year round and that the torrid zone has no snow anywhere at all; that the temperate zones are never so hot as the torrid zone and never so cold as the frigid; that it

never rains in deserts; that there cannot be any plant-life in deserts; that there is no rain in deserts because they are deserts &c. Such errors convey wrong notions to young learners and make impressions on their minds which it is difficult for them in after-life to get rid of. If, when they grow up, they chance to become teachers, they naturally tend to pass on their erroneous notions to their pupils and thus unconsciously perpetuate them. It is up to us teachers to make careful lists of such mistakes and supply them to the Association so as to enable it to prepare from the lists received a fairly comprehensive catalogue of common mistakes in geography-teaching and bring them to the notice of all geography teachers not only in this presidency but in the whole country. The service thus rendered will, I feel sure, be very much appreciated by all concerned in correct teaching.

I have now done.

I beseech you, ladies and gentlemen, to excuse me for my inability to attend the conference and perform the duty entrusted to me. You may be sure, however, that I shall ever continue to take interest in your activities as I have always done in the past and render you such assistance as may be demanded of me and may be possible for me to render.

The Historical Geography of the Cauvery Delta with special Reference to the Tanjore District

By

Mr. T. B. Renganatha Davey, B.A.

The River Kaveri.—According to Roman and Greek Historians " The River Kheberos is the Kaveri, the Sanskrit word for saffron. Kaveri, according to a legend in the *Harivamsa,* was changed by her father's curse from one half of the Ganga into the river which bears her name and which was therefore also called Ardha Ganga, i.e., Half Ganga. Karoura, the residence of the Chera king was upon this river. Dr. Burnell identified Khaberis with Kaveripattam which lies a little to the north of the Pudu Kaveri (New Kaveri).

South of the sources of the Kaveri the Eastern Ghats are connected with the Western Ghats through the Nilgiri mountain. The name Adeisathron which we meet in the Greek sources can only refer to the Western Ghats in which the Cauvery rises. Adeisathron must be taken to denote that section of the Western Ghats which is immediately to the north of the Koimbatur gap as it is there the Kaveri rises.

Country of Batoi.—The Batoi occupied the district extending from the neighbourhood of Point Kalimir to the southern mouth of the river Kaveri which is corresponding roughly with the district of Tanjore. Nikama, the capital has been identified with Negapatam (Nagapatinam) by Yule who also identifies Thelkyr with Nagore and Keuroula with Karikal.

Its Name, Legend and History.—The river which makes fertile the lands of Chola is termed as Kaveri according to Stalapuranas. It is described that one Chola ruler by name Kavera seeing his lands as barren tract prayed to God, and by God's grace brought the river from Satyaparvatha (near modern Coorg).

The Tamil name of the river as stated in ancient Tamil works is Kaveri (Ka—groves and gardens, viri—full of) making the land in which it takes its course to be full of groves and gardens. The other name often applied is *Ponni* a derivative name, i.e., a river containing gold. No doubt it is very true to the very letter because we can see the sand to be full of golden particles.

Brahadisvara mahatmya gives the following history of the river Kauvery: There was one Sasisekhara Chola, a third ruler of the Chola dynasty the great-grandfather of the famous Karikala. During his rule the subjects suffered much from the floods of the Kauvery; and consequently he prayed to God and as per his order he newly constructed the dam with Panchaloha (of five metals) on the west of Srirangam and built a temple near it for Nandipuresvara. He therefore attained the title of Kaveri Karaikanda Cholan.

HISTORICAL BACKGROUND OF THE CAUVERY DELTA

Sources.—During the period of the Ramayana, we understand that the Cauvery Delta including the non-deltaic region was included as a portion of the great forest known as Dandakaranya. There is no mention of any town or village of this Delta in those times. But even then this portion seems to have been the abode of Rakshasas who were men of gigantic stature, with herculean strength. But when we enter the Puranic age, and dive into the Stala Purana we learn that Tanjore was the chief abode of Khara, a chieftain of the Rakshasas. Even now, we see the remnant of a huge heap of clay on one bank of Sivaganga which is described to be the huge Sivalinga prepared by Khara for his daily worship.

The Mahabarata mentions the Chola country and its kings; but no special mention of any place or of any occurrence is made.

Ancient Tamil works which may be taken to have been written during the first century B.C., give a vivid description of the country, speak highly of some of the rulers, the villages and the rivers, and mention the vegetable and animal products.

Vaishnava Alwars and Saiva Saints have in their works described the places having religious importance, wherefrom we can learn the names of holy places situated on the banks of the Cauvery and their religious importance. Some other Sanskrit works of the Tanjore Court which are available in the Raja's Saraswati Mahal Library, give us details about the towns and villages, forts and ports of those days and their commercial, economic and strategic importance.

Lastly, we have the inscriptions which can be relied upon with safety.

The Chola Country.—According to ancient Tamil works natural regions are classified under five heads, namely (1) Mullai, (2) Palai, (3) Neithal, (4) Kurunji and (5) Marutham or Delta land.

The Chola country is counted to be Marutham or the delta land, which is a fertile land fit for cultivation, and consequently was more thickly populated than any other part of the country in the South. The Saiva saints mention 190 sacred places on the banks of the Cauvery—63 on the north and 127 on the south, in the Chola country alone.

There are no hills whatever in the district. The absence of hills is doubtless a drawback in any landscape ; but it is however difficult for any visitor who brings with him a vivid recollection of the cruelly arid and barren tracts which are so common in any other district to withhold his admiration from the green fertility of the Cauvery Delta.

" Luxuriant crops stretch as far as eyes can reach, the view being only interrupted by rich groves of cocoanuts and other fine trees while numerous rivers full from bank to bank pass onward to the sea at frequent intervals."

The Cauvery Delta has been the seat of a glorious civilization from the dim past ; blessed by nature with a fertile soil, the people cultivated arts and letters to a degree of excellence unknown in the other parts of the peninsula. Having been far from the Muhammadan zone, and always out of the aggressive grip, the Cauvery Delta for long preserved the old culture and arts.

Pattinappalai, a poem of 301 lines by Kadiyalur Uruttiran Gannanar gives a beautiful description of the land of Kaveri and its port, Kaveripoompattinam and the life and the rule of Karikala, here called Thirumavalavan. He is believed to have given up Uraiyur and shifted his capital elsewhere, though he took care to renew and fortify that city afresh. Karikala rebuilt Kanchi and constructed the banks of the Cauvery so as to control its floods which caused the earth to be deprived of its produce. The construction of this embankment of earth was done by enemy kings who were compelled to carry earth in baskets and throw it on the bund. This is evident from the Kanyakumari stone inscription of Veera Rajendra. Kulottunga III who ruled this region for 40 years and kept the Empire intact, carried on extensive works of improvement so as to make the country rich and the people contented. He built a temple at Thiruvadamarudur, the Mula Mantapa of Sabapathi at Chidambaram, the great temple of Ekambareswara at Kanchi, and several other temples, gopurams and mantapams at several other places.

Irrigation in the Cauvery Delta.—Except in Pattukottai, and parts of Tanjore and Mannargudi Taluqs, the irrigated land of the District is almost entirely watered from the Cauvery. That river divides into two branches, not far above Trichinopoly, the Coleroon and the Cauvery which enclose between them the island of Srirangam. At the lower end of this, a channel called the Ullar running from the latter to the former, would reunite them, but for the work called the Grand Anicut, which has been built across it to keep them apart. From this point, the mother river divides into several main canals which themselves again subdivide into smaller channels until the water is spread across the Delta in hundreds of distributaries and ultimately flows down to the sea.

History of the Dams and the Distributaries—The first engineering problem in the Cauvery Delta is to so divide the available water between the main river and the Coleroon as to adequately supply without flooding the irrigation channels in the Delta. This is effected by five engineering works. (1) The Upper Anicut, (2) The Grand Anicut, (3) The Hundred and fifty Yards Calingula, (4) The Cauvery-Vennar Regulators and (5) The Vadagudi Surplus Weir.

Historically speaking, the first difficulty which seems to have occurred in the regulation of the flood water between these two rivers was that much of the water of the Cauvery was carried off by the Ullar channel into the Coleroon, which runs into a lower bed. The difficulty was surmounted by the Chola kings by the construction of the Grand Anicut, "the bulwark of the fertility of the Tanjore country," across the outlet into the Coleroon at this place. It formerly consisted of a solid mass of rough stone in clay about 1,080 feet in length, 40-60 feet in breadth and 15-18 feet in depth, stretching across the outlet in a serpentine form. It was raised by the British Engineers in 1806, provided with sand scouring sluices in 1830 (in which year the Vaduvagudi Surplus was built) and made the basis of a road bridge in 1839.

Though it stopped the Cauvery water from running into the Coleroon, it resulted in the silting up of the former river, and the scouring of the bed of the latter. It thus became clear as early as 1804, that an equal if not a more serious danger, to the Delta lay in the silting up of the Cauvery bed, at its first or the western point of bifurcation from the Coleroon and the consequent waste of the water down the latter river. For nearly 25 years an incessant struggle was maintained against the increasing tendency of the river bed to silt up at the head. The Cauvery bed was periodically

excavated and the head of the Coleroon was blocked up with excessive embankments, but all to no purpose. The water supply to the delta continued to diminish and the extent of land under irrigation yearly began to go down. Finally in 1836, the Upper Anicut was designed to adequately fill the Cauvery. It was a solid brick and cut-stone dam with scouring sluices at intervals. It was soon found that too much water was forced down in the Cauvery by this Anicut, and the bed of the river was being deepened by the unusual floods. A dam was accordingly thrown across the Cauvery in 1845, to prevent the scouring of the beds and the Hundred and Fifty Yards Calingula was constructed on the lower bank of the river to let out a portion of the surplus water into the Coleroon before the Upper Anicut.

Further to the east, two controllable weirs called respectively the Vaduvagudi and the Perumalkoil surplus are designed to prevent the Cauvery receiving more water than it would carry and to check many serious floods. The Cauvery-Vennar Regulators, though primarily constructed for another purpose are of assistance in holding up of the waters along the delta and forcing it through the Grand Anicut into the Coleroon. Immediately below the Grand Anicut the main river divides into two principal branches forming the head of the delta proper.

Besides the scientific regulators just described, there are a number of solid weirs of old design across the river which are a cause of a great deal of silting up of river beds.

Owing to the fact that the river beds are not much below the level of the plain and the 'fall of the river' is very gradual, the country would be flooded if high embankments were not raised along all the larger channels. Thus the town of Kumbakonam is mostly below the level of both the Arasalar and Cauvery rivers which enclose it. It is necessary, therefore, for the river to be well-embanked throughout the delta. The embankments of the rivers are said to be the chief work of the great Karikala Chola, A.D. 50-95. In the earliest times the country was called 'the land of the floods' (Punal Nadu) from the absence and insufficiency of such banks.

The Grand Anicut constructed to let the useful water into the Cauvery and turn the surplus into the Coleroon was built by Karikala with the help of thousands of captives brought from Ceylon. It is impossible to conclude from the present state of the bed of the Cauvery that it could have allowed all the waters to run through it. But historical evidence states that when Uraiyur was the capi-

tal of the Cholas, large ships went in as far as the capital through the harbour at Kaveripatnam. So in those days the river Cauvery was not only deep and broad but also useful for navigation. One Alwar known as Appakudathan in one of his poems states that the present Coleroon was the bed of the original Cauvery. But this view is not supported by any other evidence except the navigability of the river.

We can safely conclude that Karikala shifted his capital from Uraiyur to Kaveripatnam in consequence of the building of the dam as a result of which the river was not capable of allowing ships to enter inland as far as his capital; owing to the need for ensuring foreign trade he might have shifted his capital. In the words of Mr. P. T. Srinivasa Iyengar, the flourishing trade of these places such as Uraiyur and Kaveripatnam enabled them to attain early the dignity of the capital town of the early Tamil kings.

Sivalinga Chola, the grandfather of Karikala seems to have dug a course of the Cauvery. So, however much the course of the river might have changed, in the middle, it certainly joined the sea at the self-same place, as it now joins, east of Chayavana temple.

Veera Chola, the father of Karikala who was the patron of the author of the Tamil Grammar 'Veera Sozhiam," a standard work in Tamil, seems to have meddled with the course and created a new branch from the Kaveri, named after himself as Veera Cholan.

The above-said Tamil grammar mentions the presence of Vennar or Veena Nadhi and Vadavar or Manimukta Nadi. It is said that during the reign of Kanaka Chola, the Cauvery near Kumbakonam began to disappear as soon as it reached Tiruvalanchuli by falling in a large hole and so the subjects who lived in the east had no water even to drink. But afterwards with the blessings of God, Kanaka Chola directed the river to run in a proper course. Professor K. A. Nilakanta Sastri gives no weight to this Puranic version as not only the main distributaries but also the minor channels are named after these great kings.

'Sahitya Ratnakara', a Sanskrit work, gives an account of the rule of Regunatha Nayak, a ruler of Tanjore. It contains a vivid description of the deltaic region and of the products along the banks of the Cauvery.

In Canto I, verse II, the description is as follows:

1. "There is the Chola country full of corn-fields, which is thickly populated, and is blessed with the wind blowing with the particles of Cauvery water."

Canto II. verse 1.

"The West wind blowing eastward very fast as if to tell the sea, the husband of the Cauvery that his beloved is coming fast, causes pleasure to the bands of cultivators."

"Regunatha Bhyudaya", another work in Sanskrit, by a poetess named Ramabadramba, describes this deltaic region in the following strain.

"The God Renganatha is taking His bed in the midst of the Cauvery, thinking it is full of flood, and lets only enough of water in the Cauvery; and the rest is sent to the sea through the Coleroon."

"Sabhapathi Vilasa", a drama recently published in the journal of the Annamalai University, Vol. III, No. 2, described the Cauvery and the Cholas in Act IV. Here the Cauvery is referred to as Marud Vrdha and the products on the banks, on the fields and in the gardens are well described. One point that is worthy of note in all the above works is the importance attached to the dams as key positions in the hands of the enemy. We see Jaggaraya, an usurper of the Vijayanagar kingdom, joining the Madura Naicks against the Tanjore Naicks and following the custom of the Pandiyans to cause havoc in the Chola kingdom as a part of the war strategy, demolished the dam and flooded the country of Regunatha. But Regunatha Naick marched against Jaggaraya, killed him in battle, renovated the dam and affixed his seal therein in memory of that event. This incident is stated in "Sahitya Ratnakara".

TOWNS AND VILLAGES OF TANJORE DISTRICT

Mr. Kanakasabai, in his work "Tamils 1,800 years ago", gives the division of the Chola country as 24 kottams or districts and 79 Nadus or Taluks as maintained by Karikala on the authority of a Thondamandala Pattayam (copper inscription) of the 11th century A.D.

We cannot say that this division was adopted throughout the Chola days. From the inscriptions of Southern India we are able to trace about 14 Chola rulers from A.D. 905 to 1267 that held supreme sway over this deltaic region. According to the Tiruveezimilali inscription, two Chola rulers had surveyed the whole Deltaic region for purposes of taxation, the first being Raja Raja I and the second Kulothunga. The names of the provinces, districts, taluqs and villages often changed according to the whims and caprices of the rulers. For instance, a sacred place sung by the Saiva Saints

named 'Tirunaraiyure' is otherwise termed by the Cholas as "Pancavarmadevi chaturvedi Mangalam", but has its name as per Stala-purana as "Siddheswaram" after the name of the deity of that place Siddhanatha. In A.D. 985 it is stated that this "Tirunaraiyure" was a village in the province of Kshatriya Sikhamani Valanadu and Arumozhi deva Valanadu. In A.D. 1070 the same place is stated to be in the province of Kulothunga Chola Valanadu. In A.D. 1118 the same province is named as Bhupalakula Vallivalanadu.

Whatever might have been the reason for the change of the names during successive periods, the names of the sacred places have maintained the original name for longer periods and sometimes changed only through the influence of the rulers.

For example, Thiruvisalur is equal to Vembatrur, is equal to Cholamarthanda Chaturvedi Mangalam, and is equal to Sakharajapuram.

2. Mannargudi is equal to Raja Raja Chaturvedi Mangalam.

3. Alangudi is equal to Irumbuthalai, and is equal to Manukula Choodamani Chadurvedi Mangalam.

In spite of these changes we have to bear in mind that no name was without significance. It has already been said that this deltaic portion was an uninhabited forest region during the time of the Ramayana, but later on developed into habitable regions and thus helped the formation of settlements.

RELIGIOUS WORSHIP AND TEMPLES

Blending of the Aryan and Dravidian culture ; how they affected the formation of Towns and Villages.

As per Thogi Nool (a Tamil work), we learn that the chief deity for the Marutham land was Varuna, the Cloud-Compeller. The people of these regions worshipped many of the local deities which were mostly Dravidian. But with the advance of Aryan civilization and culture, temples began to find a place in this region.

Mr. P. T. Srinivasa Iyengar is of opinion that the intercourse between north and south is traceable from the 5th century B.C. But he says that till the 5th century A.D. Brahmins who settled in this region as a result of Aryan migration lived apart from the Tamils. By this time the broad stream of indigenous Tamil culture and the thin stream of imported Aryan culture flowed like the waters of the Yamuna and the Ganga without intermingling.

Even though Sangam literature is profuse with praise for the Chola Nadu or the Punal Nadu as the " Granary of the South ", it makes no mention of any important Siva or Vishnu Sthala within the limits of the pure deltaic region. In " Silappadikaram " we find the mention of Thiruvarangam. But if any sacred place had existed between Kaveripatnam and Madura, some of them would certainly have been mentioned. So the Sangam days had not yet seen the establishment of the big temples, the monuments of architecture and culture, nor had any places of pilgrimage of either the Saivites or the Vaishnavites as yet come into existence. Consequently, the Thiruppadis of the Vaishnava Alwars and the Sivastalams of Saiva saints are of much later origin.

Mr. R. Gopalan, in his work " Pallavas of Kanchi ", says that the age of the Pallavas may be taken to extend roughly from the 3rd century A.D. to the end of the 9th century. So the temples that exist in South India before the Pallava age were built of wood and other perishable materials and consequently have not survived. The art of monolithic temple-building was commenced by Mahendra Varma and the rock-cut temples were begun in this period and the South Indian temples may be dated after this. On the same authority it can be safely asserted that the bulk of the religious literature embodied in the Thevaram of Appar, Sambandar and Sundarar and Vaishnava Nalayira Prabandam began to be composed at this period (575 A.D.—900 A.D.).

FORMATION OF HUMAN SETTLEMENTS IN THE DELTAIC REGION

In the pre-Chola days towns were formed only as capitals or as the seat of the military chieftain or governor. Later, the focus of important routes developed into towns. But in the Chola days and afterwards when architecture and sculpture began to develop, settlements were formed round the holy places where beautiful temples were built. Some places on the sea-board became the centres of human habitation owing to trade. But big cities of ancient days were only the capitals of the ruling monarchs. These capitals had their own individual town-planning according to certain principles then prevalent and generally accepted during their regime. But big villages fit for human habitation developed along the banks of rivers by reason of the existence of a temple or a choultry or as centres for collection of the produce grown in its surroundings.

Places of importance. Some places became important during the Chola, Nayak and Mahratta days as places where certain im-

portant decisive battles were fought and as places of military garrisons. Others were important as capitals or as seats of governors and as places of pilgrimage about which some Puranas were written or some Vaishnava Alwar or Saivaite saint had sung some verses.

Capitals. *Kaveripattinam.* In the verses of Agananooru, an ancient Tamil work, the fame of this capital of Karikala and Polampoottilli is sung by Kari Kannanar and Nakkirar. It is the Kamara of the Periplus and Khabaris of Ptolemy. The Cauvery then was a deep stream into which heavily laden ships made their way. The town was divided into two parts, Maruvur Pakkam adjoining the sea coast and Pattinappakkam to the west. In the west was the king's palace which was built by artisans from Magadha and carpenters from Yavana (Ionia). This is the birth-place of the Tamil Saint and Poet, Pattinathu Pillai.

Tanjore. Capital of Vijayalaya, grandfather of Paranthaka and the capital of Raja Raja, 972-989. This was the capital from the time of Vijayalaya to the middle of Rajendra's rule when the capital was shifted to Gangaikonda Cholapuram. Sundara Pandian seems to have burnt this town once during a fight. Albiruni, the Arabian traveller, states that Tanjore was in ruins at the beginning of the eleventh century.

Kumbakonam. Mr. Wilks and Dr. Burnell have come to the conclusion that this meeting place of trunk roads was once a capital of the Cholas. This is a city full of temples for Saivites and Vaishnavites. The famous Mahamakam tank, which is visited once in 12 years by hundreds of thousands of pilgrims from all over India, is situated here.

Avur, now a small village, was the capital of Nedungilli. Its fort was once besieged by Cholan Nalangilli as stated in Purananooru.

Thalaiyalangadoo was a Chola Capital where Nedunjelian defeated the combined armies of Chera and Pandya. This battle is described by Edai Kumarar Kilar in Purananooru.

Poraiyar. According to the verses of Ulochanar in Agananooru, this was the capital of a Chola king named Periyar. This is otherwise known as Purandai.

Forts and Ports. *Kudavayil* was a place of importance as the royal prison where Cholan Sengaman imprisoned Cheraman Kanai-

kal Irumporai, according to Verse 74 in Purananooru. But according to Natrinai another important Tamil work and Agananooru verses 35, 44, and 60, this place seems to have been a fort which was a treasure-house of the Cholas.

Port Negapatam. (Ptolemy's Nigamos and Rashiuddin's Malifattan) originally occupied by the Naga people.

Battlefields. *Vallam* was the place where a Chola king defeated the Aryans according to Verse 336 of Agananooru.

Vennil was a battle-field during the rule of successive Chola kings. Modern Kovilvenni near Needamangalam is the present name.

Mizalai. Here a Chola chief was defeated by Pandiyan Nedunjelian.

Tiruvazhundoor is a place where Thithian, one of the great Iymperu Velir (five great Velirs) was defeated by Pandian Nedun Chelian.

Kazhumalan. A place where Polampoort Chenni fought with the Chera ruler and won it. Arasoor, Vembil and Tiruparambiam were the battlefields of Aditya I, the father of Parantaka.

Manamerkudi, Manjakudi and *Ponnamaravathi* were the battlefields where the Moovender (three kings) defeated the Singalavar (Sinhalese).

Ayyempet. Battlefield of Ekoji and Alagirinayakan.

Tiruppuriambiyam is the site of a battle between the Ganga King Prithivipati I, and the Pandya King Varaguna.

Mahadevapatnam. 6 miles south of Mannargudi and 5 miles north-west of Kumbakonam, a ruined fort built by Tulsaji Raja, held by Haidar and captured by the English.

Places of Pilgrimage. *Mannargudi.* This was once a Hoysala citadel. Here are to be found Rajadhi Rajeswara temple built by Rajadiraja and the Rajagopala Perumal Temple built by Kulothunga I and renovated by the Nayak kings, Ettukudi, Kodavasal, Vaideswarankoil, Kandiyur, Tillaivilagam.

Nagore. This was once occupied by Haidar Ali—then it changed hands, passing from the Dutch to the English.

Velanganni. A place of pilgrimage for Christians.

Thus, as stated in the beginning, the geography of the Cauvery Delta has to a very great extent influenced the character of the people, the formation of the settlements and nourished a culture and civilization peculiarly its own. The historical evidences extant in the shape of inscriptions, sculptural monuments and religious literature combined with the historical evidences of Roman, Greek, Arabian and Chinese historians and travellers lead us to the conclusion that the formation of the great Empires of this Delta which maintained their navy and established their supremacy in far off Java, Burma and Maldives and had the honour of having plenipotentiaries of foreign and European rulers was due more to the geographical factors that assured not only plenty of food but also safety of development of all the culture and fine arts that have outlived all the ravages of tyrants and time and stand prominent to inspire in us awe and reverence to our ancient heritage.

A Study of the Place-Names of the Tanjore District—I

By

Mr. S. Natesan, M.A., L.T.,

The place-names of the Tanjore region have a singular charm and attraction revealing at once the geographic, historical and aesthetic sense of the children of the Cauvery. But what is more arresting than anything else is that a fairly good number of place-names carry with them the prefix 'Tiru' which means auspicious or beautiful. This should easily suggest that Tanjore is pre-eminently a region of temples and shrines hallowed by the sanctity of ages. This is as it should be inasmuch as the wonderful fertility of the soil coupled with the abundant supply of the life-giving waters of the Cauvery have resulted in dowering the blessed people of this region with a certain measure of freedom and leisure so necessary for the cultivation of the higher graces of life. The essential needs of the flesh being satisfied, it is the cravings of the mind and the yearnings of the spirit that seek satisfaction. No wonder that this highly productive tract is almost honey-combed with temples which are at once places of worship and palaces of art. And these abodes of worship have naturally lent their names to the villages or towns in which they are located.

Coming to an analytical survey of the place-names of this district, one finds that they could be classified into as many as thirty divisions according to the suffixes with which they end. The following table would help to indicate the maximum geographical distribution of such interesting variety of place-names with suitable examples thereof :—

Serial No.	Categories.	Maximum Distribution.	Taluqs.	Examples.
1.	Tōttam	8	Tānjore	Sēshanārāyanan Tōttam (Tanjōre). Nānā Sāheb Tōttam (Mann.).
2.	Ūr	63	Māyavaram	Perambūr (Maya.). Kōttūr (Mann.). Kōttūr (Kumb.).
3.	Puram	49	Pattukkōttai	Rāyapuram (Mann.)—Uttamachōlapuram (Nann.). Mahārājapuram (Nannilam, Shīlyāli, Tanjōre, T.T.P.). Rājēndrapuram (Arantāngi). Sarabhōjirājapuram (Kumb., Nannilam).
4.	Pattnam	6	Pattukkōttai	Adirāmpattnam (Pattukkottai).
5.	Mangalam	22	Arantāngi	Nāttumangalam (Aran.). Nīdāmangalam Sēndamangalam (Mann.). Nāranamangalam (Mann., Negapatam).
6.	Vayal	85	Arantāngi	Punniyavayal (Aran.). Brāhmanavayal (Aran.). Tulukkanvayal (Pattu.).
7.	Kudi	47	Nannilam	Sembāngudi (Kumb., Nannilam). Semmāngudi (Pāpanāśam, Shīyāli, Tanjōre).
8.	Kōvil	3	Mannārgudi	Nattuvankovil (Mann.). Vaithīswarankovil (Shīyāli). Nāchiyārkōvil (Kumb.).
9.	Chēri	9	Negapatam	Puduchēri (Negapatam).

10.	Pēttai	10	Tanjōre	Vaidyanāthanpēttai (Tanjōre). Ayyampēttai (Pāpanāśam).
11.	Kōttai	35	Pattukkōttai	Pattukkottai, Terkukkōttai, Vadakukkōttai, Talikōttai (Pattukkōttai). Talikottai (Kumb.).
12.	Kuppai	3	Nannilam	Neykuppai (Arantāngi, Kumbakonam, Nannilam).
13.	Vāsal	4	Negapatam	Neyvāsal (Kumbakonam). Annavāsal (Nannilam, Negapatam).
14.	Kattalai	7	Pattukkottai Negapatam	Abhishēkakattalai (Negapatam).
15.	Malai	3	Tiruturaipundi	Vadamalai (Tiruturaipūndi).
16.	Padugai	8	Papanaśam	Kīl Padugai (Negapatam). Naduppadugai (Pāpanāśam).
17.	Ōdai	3	Arantāngi	Karumēni Ōdai (Arantāngi). Jambavān Ōdai (Tiruturaipūndi).
18.	Samudram	4	Pattukkottai Tanjore	Gōpāla Samudram (Pattukkottai, Arantāngi). Thyāga Samudram (Pāpanāśam). Mannār Samudram (Tanjōre).
19.	Kurichi	4	Pattukkottai	Māvadukurichi (Pattu). Kallakurichi (Arantāngi). Kurichi (Māyavaram, Kumbakōnam).
20.	Kādu	35	Pattukkottai	Pattikādu (Pattu). Rājālikudikādu (Mann). Tiruvālangādu (Māyavaram).
21.	Turai	3	Kumbakōnam	Āduturai (Kumbakonam, Pāpanāśam).

Serial No.	Categories.	Maximum Distribution.	Taluqs.	Examples.
22.	Pallam	3	Pattukkottai Arantāngi	Manjipallam (Arantāngi). Ālampallam (Pattu).
23.	Sētti	11	Tiruturaipūndi	Tēttākudi Terku Sētti „ Vadaku Sētti } (Tiruturaipūndi).
24.	Vēli	6	Tanjore	Neyvēli (Arantāngi). Ponvēli (Negapatam). Ombattuvēli (Tanjōre).
25.	Kulam	8	Arantāngi	Kōdikulam, Perunkulam (Arantāngi). Vēppangulam, Panangulam (Pattu).
26.	Marudūr	2	Arantāngi Tiruturaipūndi	Tiruvadamarudūr (Kumba.). „ (Tiruturaipūndi).
27.	Yēndal	55	Arantāngi	Vannānēndal Vannāchiēndal Parayanēndal Pidāriyēndal } (Arantāngi).
28.	Mēlam	1	Mannārgudi	Bhāgavatamēlam (Mannargudi).
29.	Palli	1	Papanāśam Tanjore Tiruturaipūndi	
30.	Patti.	17	Tanjōre	Nandavanappatti Puduppatti Pillaiyarpatti } (Tanjōre).

Before trying to explain the why and wherefore of such distribution of place-names, it will perhaps conduce to clearness of understanding if we can get at the meanings of the endings of the place-names of which a list is given above. 'Vayal' a term which is found at the end of so many place-names in this district means a piece of land used for cultivation of wet crops like paddy. 'Kudi' signifies a human habitation whose main occupation, so far as this region is concerned, is doubtless agriculture. 'Palli' and 'Patti' denote hamlets chiefly of the pastoral type where condition of soil, irrigation and the like are favourable less for agriculture than for pasture. 'Kōttai' and 'Pēttai' may be taken as correlative, the former meaning a fortress or a place of safety and the latter a suburb around it. 'Vasal,' in the common acceptance of the term means nothing more than 'gate' or 'door' but may be taken in our discussion as standing for a village. The expression 'Padugai' is as interesting as it is peculiar to this region. It refers to a dry strip of land between the bed of the river and the embankments built to prevent it from overflowing. It is annually submerged for some days by silt-laden water and is consequently very fertile. And villages situated in the vicinity happen to bear names suggestive of their proximity to the Padugai type of land. 'Setti' stands for a collection of lands more or less of the same category. Place-names ending with this suffix form another characteristic feature of the deltaic region under treatment. 'Veli' means a fence and later on began to mean a plot of land equivalent to 6 74|121 acres. 'Marudūr' denotes a village where Maruda or Arjuna tree was found to have grown. Yēndal' points to a low mound or an elevated spot. 'Mēlam' is perhaps an abbreviation for Mēlaham or 'exalted abode' indicating, to be sure, not so much the altitude of a place as the intellectual or spiritual eminence of the people living in the village. 'Cheri' means a portion of a town inhabited by a certain community and later on it meant chiefly by low-caste men given to the tilling of the soil or the rearing of cattle. By far the most felicitous term to catch one's fancy is the word 'Mangalam'. This is merely an abbreviation of Chaturvedi Mangalam' or the blessed abode of Brahmins well-versed in the four Vedas and later on used for ordinary villages. Place-names ending with this benign expression mean lands or villages which once represented the gift of ruling princes or chieftains, the idea underlying the gift being the dissemination and promotion of Brahminical culture. The remaining terms like kulam, Samudram, Puram, Pattinam, Koil, Kadu, Tottam, Odai etc., may be treated as self-explanatory. Of these Samudram may

be interpreted to signify nothing more than any respectable body of water lying in any of the interior taluks comparatively remote from the sea. It may well be that some lakes or tanks are so big that people are naturally prompted to bestow on them the dignified title 'Samudram'. Place-names ending with the word 'turai' represent spots where rivers are fordable or places where adequate bathing facilities could be had.

From the foregoing analysis of the place-names of the district, it would be found that there are as many as 85 villages in Arantangi taluk alone, the names of which are followed by the suffix 'Vayal'. This is probably due to the fact that in a dry region like Arantangi, it is but natural that villages should spring up where cultivable areas or 'fields' are to be found.

Of all the taluks of the Tanjore district, Nannilam has the distinction of having the maximum number of place-names ending with the unassuming suffix 'Kudi'. Kudi here suggests merely a group of people having agriculture, as is so evident, as their primary occupation. Nannilam, as the name alone indicates, could boast of some of the finest lands in the deltaic area and no wonder this taluk has the largest number of agricultural hamlets with the expression 'Kudi' attached to their names. It is rather curious that the place-name 'Semmangudi' should be found in five different taluks, i.e., Kumbakonam, Nannilam, Papanasam, Shiyali and Tanjore. This phenomenon incidentally serves to emphasize how the Tanjore District or the delta of the Cauvery to be more precise forms a well-marked and well-knit region by itself.

So far as place-names ending with the term 'Puram' are concerned, it may sound strange that Pattukkōttai should top the list. It is again this taluk that has the largest number of place-names ending with the suffix Kōttai meaning a fortress or place of safety. Thus Puram and Kottai are found best represented in Pattukkōttai. The explanation may be ventured that Pattukkōttai being a border taluk of the Tanjore region on the south had necessarily to be fortified for purposes of defence against the aggression of hostile powers in the neighbourhood and it is probable that a number of towns of varying size sprang up in such a fortified zone. It would be of interest to know that most of these 'towns' are called after some ruler or other holding sovereignty over the Chola country. It is significant that the same place-name should be found represented in more than one taluk. The name Mahārājapuram, for instance, occurs in no less than four taluks—Nannilam, Shiyali,

Tanjore and Tiruturaipūndi. Similarly Rājēndrapuram is a place-name which is found in three taluks. Nor is Uttamacholapuram the sole monopoly of Nannilam in the Tanjore district: there is a village of some size bearing the same appellation in Salem Taluk, which is due to the fact that Salem was under Chola rule for a long time.

It is interesting to observe that the place-names of most of the coastal towns and villages end with the epithet 'Pattnam' while towns in the interior go by the common name 'Pura'. It would be seen that Negapatam, Kāvēripattnam (Shiyali taluk), Adirāmpattnam (Pattukkottai) and Sāluvanaickanpattnam (Pattukkottai) are all coastal towns being so many outlets for the products of the rich hinterland.

Palli and Patti are chiefly represented in Tanjore and Tiruturaipundi respectively but Tanjore has the maximum distribution of place-names ending with the term 'Patti' meaning a pastoral hamlet. The reason for this is fairly obvious. Tanjore taluk is divisible into two well-marked divisions, the first including much of the apex of the Cauvery delta and the second running up in the south and west to dry uplands resembling those of Pattukkottai taluk. These two tracts are naturally sharply contrasted and the taluk contains some of the best lands in the district and also some of the worst tracts. In areas of the latter type where agriculture is almost out of the question, it is reasonable to assume that facilities may exist at least for pastoral occupations. Hence perhaps the existence of as many as seventeen place-names bearing the suffix 'Patti'.

Place-names ending with 'Turai' have a charm and meaning of their own. Such place-names are not peculiar to our land: parallel ones are found in western countries also: Wallingford and Stratford in the British Isles are instances in point. They should at once suggest to the traveller or the tourist convenient spots where rivers could be forded or where enough bathing facilities could be had. Aduturai in Kumbakonam taluk may be cited as an instance.

Turning to place-names ending with the epithet 'Yēndal,' we find that they are almost bunched up in Arantangi taluk. 'Yendal,' as we have already seen, indicates an elevated place. The appearance of such a large number of place-names should help to emphasize an important aspect of the physical geography of this taluk. Vannānēndal, and Vannāchēndal, Parayanēndal and Pidāriēndal

are a few amusing examples of the type of place-names under reference.

A large number of place-names having 'Kulam' as their suffix are found chiefly in Pattukkottai and Arantangi taluks, comparatively dry tracts with no adequate supply of water. Tanks and wells had therefore to be dug as the only source of irrigation and human groupings in their neighbourhood naturally went by their names e.g., Kōdikulam and Perunkulam in Arantāngi and Vēppangulam and Panangulam in Pattukkottai.

Far and away, the most fascinating among the place-names that have come under our scrutiny so far, are those which end with the happy epithet 'Mangalam'. Mangalam, as we have already seen, denotes gifts of lands made by the ruling chiefs or kings for the spread of Brahmanical culture. From historical records, one can discover how the great ruling dynasties which once held sway over the Chola, Chera and Pandya territories as also the Pallavas had made these grants to Brahmins. Sēndamangalam is the gift of a Pandya king, while Kēsarimangalam is that of a Chola monarch, the term Kēsari being the distinctive title of the kings of the Chola dynasty. Arantangi taluk would appear to have received the largest share of such gifts. Nāttumangalam in Arantāngi, Sēndamangalam and Nīdamangalam in Mannārgudi, and Nāranamangalam in Negapatam and Mannārgudi may be taken as a few typical examples. In this connection, it would be interesting to remember that there is a place called Kēsarimangalam in Bhavani Taluk—obviously the gift of a Chola king—and another called Nāranamangalam in North Arcot District. Satyamangalam is a name which is, of course, more ubiquitous than any other of the Mangalam category. It should really be of supreme interest to investigate the hundreds of Mangalams scattered over our Province and discuss the historical circumstances which led to the origin of those place-names but the subject, it is feared, may well form the thesis for a separate paper.

From the various taluks, we shall now get on to their headquarters and see if the names which they bear have any tale to tell. The etymology of 'Tanjore' is rather obscure. Tradition has it that Tanjan, a Rakshasa or giant haunted the neighbourhood and was destroyed by the God Vishnu. His dying request was that the city might be named after him and the boon was granted. The legend is interesting indeed but it would be more appropriate to believe that the city is so called because it was deemed fit as a

place of refuge. 'Tanjam' means refuge. Coming to Kumbakonam, there is a legend extant about the origin of its name. It says that when the Divine kite Garuda carried a pot full of nectar, he dropped a part of it here. Hence the name given to the spot. The legend about Māyavaram is no less interesting. Mayavaram means 'pea-fowl town'. The story goes that Siva turned his consort Parvathi into a pea-hen because she would not obey him, and only changed her back again when she worshipped and bathed in the Mayilamman tank here. Mannārgudi is of course derived from the local Rājamannār shrine. Pāpanāsam alludes probably to the sanctity of the place. Shīyali is a corrupt form of சீகாழி meaning 'beautiful angel' referring of course to Lord Siva installed in the local shrine. Students of Tamil Literature might remember that Shiyali is renowned as the birth-place of Tirugnānasambanda, the Great Saivite Saint. Nannilam is so-called because it is the headquarters of one of the central taluks situated entirely within the rich delta of the Cauvery Hence the name Nannilam—'good land.' Negapatam or Nāgapattnam has certainly derived its name from the little known Nāga people who seem to have made it their chief city. Arantangi is easily translatable as the 'Upholder of Dharma.' Containing as it does the largest number of 'Mangalams' or centres of Brahminical culture, what is more natural than to infer that this part of the district came to be looked upon as the standard-bearer of Dharma? Last but not the least is Tiruturaipūndi. The correct name is said to be Tiru-taru-pūndi or the city of the sacred tree. The sacreed tree refers, of course, to the Biluva tree because the place is also called Biluva-vanam, meaning the Biluva forest—a name derived, it is said, from th numerous Biluva trees formerly found in the neighbourhood. There are still left a few of these trees by the tank.

While discussing the origin of some of the place-names of the Tanjore region, one cannot help regretting that a number of these place-names have become so much mutilated and twisted out of recognition that they have all but lost their native charm and colour. Tranquebar is one such sorry specimen. Witness the irony of circumstances that have deformed Tarangambādi or the Wave-Village—since it is washed by the waves of the sea—into Tranquebar! Tarangambadi carries with it the music of the waves, while Tranquebar makes sound but no sense. It would be a piece of very useful research indeed if a list could be made out of place-names which have suffered likewise so that fresh life may be blown into them and their original form and sense may be revived and kept intact. Tiruvarur, the parental village of the

great saint Sundaramurti has now become Tiruvalur, i.e., village of the tail!

Before taking leave of this exceedingly fascinating subject, it would be well to sum up a few general facts emerging from our study. In the first place, there should be little difficulty in admitting that the place-names that have come under survey are not after all accidental in their origin: but have, on the contrary, a certain context—historical, legendary or otherwise—music and meaning of their own. It is not too much to say that not a few of them are but historical or legendary lore crystallised, while others are so many mirrors reflecting some important geographical features peculiar to the town or village bearing those names. The second point of interest is that place-names, once established, have been able to withstand the ravages of time although, it should be confessed, some of them have lost a bit of their identity due to causes into which one need not enter. It is gratifying, however, to find that many of them have come gaily floating down the stream of time gathering into themselves the aroma of a vanishing past and yet looking as new as ever. The third and the last but not the least interesting factor holding attention is that nearly all these place-names seem to convey the pleasing suggestion of a certain element of ease and freedom, lightness and rhythm about them thus revealing in their own way, the delicate artistic sense of the children of the soil.

A Study of the Place-Names in Tanjore District—II

By

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The place names in Tanjore district submit themselves to various kinds of analysis and I confine myself in this paper to a few interesting and important items thereof.

I. RELIGIOUS.

Tanjore district forms the major portion of the Chola kingdom and a small portion of the Pandiyan kingdom in the south which are of the most fertile parts in South India having naturally a rich and intelligent population. The kings of the various dynasties which ruled over this "granary" of South India were religiously inclined; and they devoted a large amount of their income for the propagation of religion through temples and matams. The Saivite and the Vaishnavite saints of South India had their peregrinations more in this district than anywhere else and have left their footprints in every temple in the district. Innumerable canals and branches from the ever-flowing sacred Kaveri river added to the fertility of the land and to the religious atmosphere nurtured therein. This tract contains more temples than any other part of the Tamil country, many of them being huge cathedrals built of chiselled granite got from several hundreds of miles away. Most of the place-names where the temples are situated have legends behind them to explain their origin.

(1) *Madakkoil* (Terraced temples). During the early Cholas, an almost legendary king Kōchengannān is said to have built huge temples in Chola territory. They were all built up on artificial mounds and terraces. Hence they are called *Madakkoil* or Perum koil. For example—Nannilam perum koil, Vaigal Madakoil.

(2) *Padalpetra sthalam.* During the Saivite revival the saints Sambandar, Appar, and Sundarar sanctified a number of temples with their songs, "Thevarams". The places which they sanctified are called *Padalpetra sthalams.* A large number of them are found in Tanjore district. Each place is prefixed with the participle "Thiru". In the Chola country, there are 63 Temples north of the Kaveri and 190 temples south of it. Of these,

about 165 places are found in the present Tanjore district alone. Similarly Vaishnavite temples in which the Vaishnavite saints had sung songs are known as *Mangala sasanam petra sthalams.* There are 33 such places in this district alone. Among Subramania temples or *Thiruppugal petra sthalams* there are 15 in this district. Altogether the number of temple towns which are named after these shrines are 213 in number.

(3) Subsequent to the Saiva and Vaishnava revival the imperial Cholas of the Vijayalaya line made Saivism as their state religion and renovated and renewed most of the ancient temples, beautified with gorgeous architecture and named them after themselves. As examples, we have the great temple of Tanjore named after its founder Raja Raja I, Gangaikonda cholapuram after his son Rajendra or Gangaikonda Chola. (The latter is not exactly in Tanjore district).

(4) The later dynasties of Vijayanagar, Tanjor Nayaks and the Maharattas added to the number of such sacred places. A detailed list of this period is given below.

The small tract south of Aranthangi in the taluk of that name belonged to Pandya territory and two temples of that tract are noteworthy. They are Avudayarkoil, sanctified by Manickavachagar and Tirupunavasal, a Padalpetra sthalam.

II. HISTORICAL.

There exist in the district a large number of place-names which have a historical origin and by a classification and analysis of them we would be able to deduce a historical account of this district. I herein give a few examples for such a classification and analysis.

(1) *Buddhist and Jain Period: early Christian era.*

Budhamangalam (Nagapatam)—We know from history that a Buddhist vihara existed near Negapatam and that it was pulled down in the last century after the British advent.

Dheepangudi (Nannilam)—This was a Jain centre as proved by Cholamandalachathakam.

(2) *Prēchola period: 1st to 8th century A.D.*

Aranthangi—The name indicates that it was a centre of charity.

Irulneekki—The name indicates the early name of Appar, one of the four Saiva saints who lived in the sixth century.

Alalasundaram—This name is that of the Saint Sundaramurthi, who lived two centuries later.

Manickavasagarkattalai—This indicates the name of another St. Manickavasagar who constructed the temples at Thiruperundurai the modern Avudayarkoil in Aranthangi taluk.

(3) *Chola period : 8th to 13th century.*

There are about 16 names which indicate the Chola reign. (Adichchanallur, Puram and Mangalam—are found in three taluks, built after Athithya (880-907) the earliest imperial Chola). Uthamacholapuram is after Uthamachola (969-985). Kidaramkondan is after Rajaraja I (985-1016), who carried his conquest beyond the seas, Kidaram being identified with Burma. His son Rajendra (1012-1043) is responsible for the name. Rajendranallur in Papanasam. Akalangan is the name of Vikrama Chola (1118-1133) who would have been responsible for the village of that name. During Kulothunga II's time (1133-1146) Sekkilar was his prime minister, whose proper name was Arulmolithevar. There are three towns which bear his name. Sembiya Mahadevi is the Chola queen's name. General names of the Cholas like Cholapuram, etc., are found in a number of places.

(4) *Pandiyas—13th century.* After the fall of the Cholas, Pandiyas had a brief spell of power. That is why we find two villages named after Vikrama Pandiyan in Mannargudi and Nannilam taluks.

(5) *Nayaka Kings : 15th to 16th centuries.* Vijayanagar ruled over South India from the 15th century. The Nayaks were their Viceroys. Virupatchipuram denotes Vijayanagara rule : while Reghunathapuram denotes the existence of Nayak rule.

(6) *Mahratta Period : 17th to 19th centuries.*

The Nayak rule was overthrown by the Mahrattas. Yekoji, the half-brother of Sivaji was the first to conquer Tanjore. The following list gives the place-names which owe their existence to the Mahratta kings :—

King's Name	*Period*	*Name and village*	*Taluk*
1. Yekoji	1674-1684	Yekojimaharajapuram	Shiyali
2. Sahaji	1684-1711	Sahajirajapuram (Thiruvisanallur)	

3. Saraboji	1711-1729	Sarapojirajapuram	Papanasam, Nannilam and Kumbakonam
4. Thukoji	1729-1736	Thukachi	Kumbakonam
5. Babasaheb	1736-1737	Ravajikottai	Pattukottai Tanjore
6. Pratapasimha	1742-1765	Prathaparamapuram	Negapatam
7. Thuljaji	1765-1788	Thulajendrapuram	Shiyali, Mannargudi Mayavaram
8. Amarasimha	1788-1798	Amarasimhendrapuram	Pattukottai
9. Other names		Baloji Raghunatha Samudram	Pattukottai
		Ranoji Sundara Rao Thottam	Tanjore
		Manoji Appa Chavadi	Papanasam.

(7) *Mussalman influence*: During the later Mahratta period the Karnatic Nawabs exercised a lot of influence over the district. A number of Muhammadan families settled in various places. They are mostly Tamil-speaking Mussalmans who had become converted to that religion. The following names indicate their existence :—

Dowlatmaharajapuram
Inayathkhanthottam
Thulukkavayal
Syedkhansaheb
Sinnavusaheb
Ponasaheb
Nanasaheb

III. Some of the place-names have rare suffixes and prefixes which are more or less peculiar to this district. It may be interesting to note a few of them.

1. *Suffixes.*

Mulai—முளை (Germ)
Ex. Aladikkum Mulai—ஆலடிக்கும் முளை
Viduthi—விடுதி—(Place for habitation)
Ex. Attangarai Viduthi ஆத்தங் கரைவிடுதி

Uruni— ஊருணி — (Drinking water well).. Ex. found in Ramnad and Madura districts also.

Iruppu— இருப்பு (Settlement)

Ex. Found in Madura district also.

Padaiveedu—படை வீடு (Armoury)

Ex. found in North Arcot district also.

Kollai—கொல்லை (Backyard)

Ex. இஞ்சிக் கொல்லை —Injikollai

Kattalai—கட்டளை (Endowment)

Ex. Ksheeranna Kattalai, Sukravara Kattalai, Rendam Kattalai, etc.

These names indicate certain endowments of villages made over to the temple for performing certain religious functions.

Karambai— கரம்பை

Ex. Vanian Karambai—வாணியன் கரம்பை

Adakki—அடக்கி

Ex. Amaradakki அமரடக்கி

Maramadakki மரமடக்கி

Ayyangar— ஐயங்கார் —(Caste appellation of Sri Vaishnavites). Perhaps endowed to Vaishnavites.

Senkeerai— செங் கீரை (Red leaves. It is also the name of a children's play—depicted in Pillai Tamil, a poem).

Ex. Chinna Senkeerai சின்ன செங்கீரை

Ukkadai—உக்கடை (end of a village) Ex. Karupur Ukkadai. There are a large number of places with this suffix.

Tidal— திடல் (a high place)

Ex. Kollu Tidal. கொள்ளுத்திடல்

Vālkai வாழ்க்கை (livelihood)

There are a number of other suffixes which are found in other districts also and hence not particularly mentioned herein.

2. Prefixes. We give herein a few examples of peculiar prefixes:—Kambar Cheri— கம்பர் சேரி. Perhaps after the poet Kambar or after the grain kambu.

Vinaitirtha Gopalapuram வினைதீர்த்த கோபாலபுரம் (The temple which did away with destiny.)

Sevidan Kadu செவிடன் காடு (Dumb man's land)

Nelguttagai—நெல்குத்தகை (Lease of Paddy)

Kshetrapalapuram க்ஷேத்ரபாலபுரம் (the protector of the sacred place.)

The deity Kshetrapala is found mostly in Malabar temples.

Vellalar agaram (வெள்ளாளர் அகரம்) Vellala's village.

It may be noted that most of the above-said names have got peculiar significance.

IV. A few interesting place-names which have pure Tamil origin are given below:—

Nell guthagai Alangudi நெல்குத்தகை ஆலங்குடி Lease of paddy.

Vilunthamavadi (விழுந்தமாவடி) Fallen mango.

Poonthottam (பூந்தோட்டம்) Flower garden.

Purakkudi (புறக்குடி) Out-caste habitation.

Aranthangi அறந்தாங்கி Charity endowment.

Avanam ஆவணம் Document.

Bayamariyathanyendal பயமறியாதான் ஏந்தல் Fearless persons' village.

Elunootrumangalam எழுநாற்று மங்கலம் Seven hundred village

Mavadai மாவடை Mango tree.

Thambikkunallankottai தம்பிக்கு நல்லான்கோட்டை Brother's friend's fort.

Palathottam பழத்தோட்டம் Fruits garden.

Kallimedu கள்ளிமேடு Prickly pear mound.

Ariyapadaiveedu அரியபடைவீடு Rare army house.

Injikollai இஞ்சிக் கொல்லை Ginger field.

Kolikuthi கோழி குத்தி Fowls' peck.

Irulneeki இருள்நீக்கி The disperser of darkness.

Yeduthukatti எடுத்துக்கட்டி To take and tie.

Elumagalur ஏழுமகளூர் Seven girls' town.

Ilanthoppu இளந்தோப்பு Young garden.

Kankoduthavanigam கண்கொடுத்தவணிகம் The place which gave the eye.

Nalil onru நாலில் ஒன்று One in four.

Simili சிமிழி Chimney.

It may be noted that some of the above-said examples are purely of Tamil origin and prove how far the people were devoted to the development of their own language and literature. It may be interesting to make a special study of their origin which prompted the people to give such peculiar names to their places of residence.

The Geographical Significance of Place-Names in the Tanjore District—III

By

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This is no new subject. Many a Tamil and Sanskrit scholar have done much work in this direction, though such knowledge has not been scientifically systematised. The works of Tamil Sangam poets, the Tēvārams of Appar, Sundarar and Sambandar, the Nālāyiraprabandham, Bakta-vilāsams of Agastya, Upamanyu and Harasarman and last but not least the several Sthalapurāṇas throw much light on places in Tamil Nad, and show how the names of those places properly fit in with their origin.

Names of places can be classified in two ways, either according to the suffix-words or according to the period in which they sprang up. The latter kind of classification into ancient, mediaeval and modern concerns more the historian. With Geographers, it is the first, namely, classification according to the suffix-word that matters more.

We have about 92 suffix-words commonly used to denote a village. The list is fairly long, but it enables one to have a somewhat accurate idea of the place named. For instance the suffix-words *Kāḍu, Vanam, Araṇyaṃ* as are found in Ālaṅgāḍu, Śittākkāḍu, Koḍikkaḍu, Marudavanaṃ, Puṣpavanaṃ, Chāyavanaṃ, Vedāraṇyaṃ suggest a large amount of that particular vegetation such as banyans, flowers, etc., in that place or the presence of a forest close by. Even to-day we can see something like a forest near Vedāraṇyaṃ. Again the suffix-words *Koil, Īśvaraṃ* as can be seen in Vaittīśvaraṅkoil, Sundarapperumāḷkoil, Paśupatikoiḷ, Tirunāgēśvaraṃ, Paṭṭīśvaraṃ suggest a seat of the holy shrine. The suffix-word *Paṭṭinaṃ* that we find in Nāgapaṭṭinaṃ, Ativīrarāmanpaṭṭinaṃ, Kāvirippumpaṭṭinaṃ was generally applied to a coastal town. Examples can be multiplied ; and they all unerringly give the chief feature of the place.

The suffix-words, which as has already been stated number about 82, can be classified under *Sanskrit suffix-words* such as Vāṭī, Kuṭi, Maṭha, Sthāna in Guruvāṭī, Vīravāṭi, Tiruvedikuṭi, Pādirik-

kuṭi, Rājāmaṭhaṃ, Tillai sthānaṃ *Tamil suffix-words* such as Kuricci, Kuḷaṃ, Paṭṭi, Pēttai in Kāṭṭukkuricci, Taccaṅguricci, Kuruṅgulaṃ, Maruṅguḷam, Piḷḷayār paṭṭi, Śoḷagampaṭṭi, Vaittinātampēttai, Vaṇṇārappēṭṭai and *suffix-words derived from Sanskrit* such as Agaraṃ (curtailed form of Agrahāraṃ) in Ammayagaraṃ, Nagar (curtailment of Nagaram) in Ilanagar. These suffix words show in a rough way, whether the place has predominantly Aryan culture or Dravidian culture or a mingling of the two.

Place names having suffix-words such as *Ēndal, Ōḍai, Kaṇṇi, Karambai, Karai, Kollai, Tidal, Vayal* in Kāḷiyēndal, Śemboḍai, Vēḷaṅkaṇṇi, Maṇakkarambai, Kollaṅgarai, Iṅjikkollai, Koṇḍavaṭṭam, Tiḍal, Āṇḍivayal are, it can be easily ascertained, of later origin.

Place-names containing suffix-words such as *Iruppu, Kōṭṭai, Pāḷayam, Paḍaivīḍu* in Vānḍayāniruppu Nāñjikkōttai, Bandarippāḷayaṃ Ariyappadaivīdu were military stations during the time of the Cholas.

Places with suffix-words *Śattiraṃ Tōṭṭam, Maṭhaṃ, Maṇṭāpaṃ* in Ammaśattiram, Kūḍalūr Tōṭṭaṃ,, Rājā maṭhaṃ, Kañjaṇṇā maṇṭapaṃ indicate origin during the time of the Mahrāṭhas while names with suffix-words Samudram and Raṅgaṃ were founded by the Nayak rulers.

Again we find several names for the same place. Names of places have been altered with a new king or with a new line of kings. What was called Tiru-uśāttānaṃ during the days of Nayanmars came to be called Keraḷakulāśanicaturvēdimaṅgalam during the time of the Cholas, while its present (modern) name is Kovilūr. A district around the modern Tirunarayūr was first called Kṣatriyaśikhāmaṇivaḷanāḍu. It was named Arumoḻidevaḷanāḍu in 985 A.D. It was subsequently known as Kulottuṅgaśoḷa vaḷanāḍu in 1070 A.D., and lastly as Bhūpālakulavalli vaḷanāḍu in 1118 A.D.

Thus we find that names of places give us much information on the historical side.

Of the two subjects which engage constantly human attention, namely, Religion and Politics, the Hindus of old gave preference to religion without neglecting the other. Each Sthalapurāṇam throws much light on the historical, geographical and geological conditions of the place. While we may concede there is exaggeration and mythology in them, it is no good throwing them out to the waste paper basket, as each Sthalapurāṇaṃ contains valuable mate-

rials concerning the village. The most important and characteristic feature of the village is summed up in the base-word of the name of the village.

From the Geographer's point of view it is the base word that is more important. It can be classified into a number of groups twelve of which are of special interest to students of Geography. Some base words bear the names of trees, e.g. Attiyūr, Araśūr, Iluppūr, Karuvakkuricci, Kamukakuṭi, Tennaṅgudi Panayūr, Punnaivāśal, Puraśakkuṭi, Puliyandurai, Palaiyūr, Maṅguṭi, Veppattūr, Velaṅguṭi. In these villages we find the respective trees growing in large numbers. This gives us a clue as to the flora of the place. It has been found that thirty-six kinds of trees are grown largely in the district. Some base-words are of plants, e.g., Āvāraṅguti, Ūmattaikāḍu, Erukkūr, Kallikkudi, Suraikkāyūr, Taḻañceri, Parūttiyūr, Mañjakkarai. Here the conditions are most favourable for the growth of those plants which on a calculation comes up to twenty-four kinds. Some again are names of grains, e.g., Kambañcēri, Tuvaramadai, Koḷḷutidal. Some soil produces excellent flowers. Such soil is found in places like Mullaivāśal, Śēṅgaḻunīroḍai, Pūntoṭṭam, Neytalūr. Again some base-words indicate the presence of birds in large numbers, e.g., Kākkayāḍi, Kokkūr, Koḻiyūr, Tirunārayūr, Tirumayilāḍi, and we find them so.

Some base words make us infer that those places have more of particular animals, e.g., Panniyūr, Nāykuṭi, Kapisthalam, Āḍuturai. The environmental conditions of these places apparently conduce to the well-being of the particular animals and birds!

Some base-names give us an idea of the soil, e.g., Maṇalūr. Puluḍikkuti, Vaṇḍalūr, Sēttūr and Karuppukiḷar. Others indicate the presence of mineral wealth and precious stones, e.g., Ponnūr, Muttuppēṭṭai, Śembodai, Māṇikkamaṅgalaṃ. Again some others indicate the presence of particular kinds of occupation, e.g., Taṭṭāṅguṭi, Taccaṅguricci, Kottaṅguṭi, Idayaṅgaḍu, Valayappēṭṭai, Vēttaikkaraniruppu. In and near these villages we find necessary facilities for the respective occupation.

From a study of the place-names in Tanjore District, we find that they are generally made up of two parts, the base-word and the suffix-word, which are both significant. As they have been carefully thought out, they have got in most cases a meaning to offer, specially to the geographer. It gives him some definite idea about some one or all of such particulars as soil, vegetation, people, occupation, etc.

The Physical Geography of the Tanjore District

By

K. S. Chandrasekharan, M.A., L.T.,

POSITION ETC.

The district of Tanjore lies on the South-East corner of the Presidency of Madras between the parallels of 9° 51′ and 11° 25′ North and the longitudes 78° 47′ and 79° 52′ East of Greenwich. Its area is about 3,472 square miles. In the north, the river Coleroon separates it from the adjoining districts of South Arcot and Trichinopoly; the Pudukottah state lies on the west; the zamindaris of Ramnad and Sivaganga border it on the south. The Bay of Bengal is the natural boundary on the east. In shape the district is roughly triangular, two of whose sides are formed by two distinct parts of the coastal portion of the district, while the third is constituted by the river Coleroon itself. A note-worthy feature about the coastal portion is the fact that it is again divisible into two distinct regions. (1) The first extends in a long straight line, almost unbroken in character, directly southwards from the port of Kodiyampalayam at the place where the river Coleroon debouches into the sea, to Point Calimere. (2) The second curves from Point Calimere towards the west and south for 75 miles along the Palk Strait to the mouth of the Pambar. This portion takes a southerly bend from Adirampatnam and curves out again towards the sea at Manamelkudi, forming a promontory and then it recedes inland once again.

The taluks included in the district are: Tanjore, Papanasam, Kumbakonam, Mayavaram, Shiyali, Nannilam, Negapatam, Mannargudi, Tiruturaipundi, Pattukottai, and Arantangi. The French territory of Karaikal lies within the district, though administered by the French Governor. This tiny bit of French settlement lies about half-way between the mouth of the Coleroon and Point Calimere.

PHYSICAL ASPECT: GENERAL.

The general level of the country is low, rarely rising more than 160 feet above mean sea level. The land slopes from the west towards the sea with a slight tilt to the north in the northern part of the district. This is in conformity with the general trend of the

rivers. In the southern half of the district, however, the land slopes slightly to the south so that the flow of the rivers is not due east but slightly towards the south-east. In the south-eastern portions of the area, the level of the land is so low that twice a year the sea invades the land and causes the now well-known Vedaranyam Swamp. More of this anon.

Tanjore has the unique distinction of not having any hill, mountain or ridge worth the name anywhere within its entire territory of more than 3000 square miles. Nor is there any good forest of any great importance. The highest part of the district that lies to the west does not rise more than 180 feet. This is but consistent with the fact that the district is entirely made up of the deltaic portion of the river Cauvery. The river has reached the final stages of its life-history and as such is unable to carry further the heavy load of the once rocky material now turned to fine silt and alluvium. These are deposited on its banks enriching the land in fertility.

NATURAL REGIONS.

The district falls under three natural regions:—(1) the deltaic portion lying in the northern area; (2) the upland tracts of Tanjore, Mannargudi and Pattukottai taluks; and (3) the "Vallam Tableland" lying to the west.

The deltaic region occupies more than half the total area of the district and accounts for the wealth of the land. This region is limited by the already-mentioned river Coleroon on the north; while the sea-coast naturally limits it on the east, from the mouth of the above-said river to Point Calimere. The southern limit begins at the north-western corner of the district passing through the revenue divisions of Tanjore and Mannargudi and ends in the sea a little to the west of Tiruturaipundi. No less than five of the wealthiest taluks of the district are included in this tract. This part of the district consists entirely of the alluvium of the diversely ramifying branches of the Cauvery, which split up into innumerable smaller rivers, streams and channels. Within this area there is no fear of famine or failure of water-supply or poor crop. Not a single waste land can be seen. For miles around, as far as the eye can see, there is the cheer-giving, life-sustaining paddy fields with their cooling green, interspersed with groves of cocoanut, and mango and other fruit trees and plantain gardens. This alluvial plain slopes very gradually towards the coast. There is not a single prominence within this area. Near the coast, however, there are a

number of ridges of blown sand which fringe the beach to a narrow extent all along the coast. The bed of the sea is also remarkably devoid of any rocky material and shelves gradually on a sandy bottom. The coastal scenery presents a monotonous aspect throughout its entire length except in the southern part of the district.

The second region or *The Upland Tracts* is, as its name implies, a little more elevated than the deltaic area. But, this region is an open plain with no natural elevations or prominences higher than the plain itself. Th general slope of this plain is towards the east. The taluks of Arantangi, Pattukottai and the southern part of Tanjore and Mannargudi are included in this region.

The third of the natural regions has recently attained some importance. This tract lies to the south and south-west of Tanjore, where the country rises sufficiently higher than the surrounding land to be called a plateau, though very small. This has been named the "*Vallam Table-land*" after the name of the chief town in this area. Grits, conglomerates, and sandstones, with their natural concomitants constitute the plateau. Beautifully formed varieties of quartz occur in the rocks and are called *Vallam Diamonds*. They are quarried for use as cheap ornaments, and the finer and more transparent varieties of quartz are used for making eye-glasses or spectacles.

Excluding the three major divisions described above, there is a fourth, which, though it occupies a very minor area in the district, deserves special mention on account of its importance. This is the tract in the south-eastern corner of the district, and stretching between Point Calimere and Adirampatnam, a distance of about 30 miles. This area is a salt swamp, of an average width of about 4 miles. This is the only salt swamp in the whole of the Presidency of Madras. Familiarly, it goes by the appellation of "Vedaranyam Salt Swamp." Twice a year, in the months of May and June, the sea invades the swamp. The invasion of the swamp by the sea has been termed "Chitrai Puram and Vaisakha Vellam" in Tamil. The receding sea leaves behind it sufficient brine to deposit a thick layer of salt after natural evaporation of the sea-water. Quite recently, this place has become very famous in world history due to the lead taken by the greatest of the sons of India, who deriving inspiration from his Guru, originated the idea of claiming the salt deposits as belonging to the public, which they were entitled to remove without payment of any kind of tax to the government—salt being one of nature's necessary supply to Mankind.

DRAINAGE.

We next turn our attention to the drainage of the area. The principal rivers that flow through the country are the Cauvery and its numerous branches. They all have a general trend to the east. After draining the Mysore plateau and the districts of Salem, Coimbatore and, Trichinopoly, the river bifurcates a little to the west of Trichy Town. The northern branch takes the name of the Coleroon. The two branches again almost unite about 18 miles further down, but from that point, they again diverge a second time. The Coleroon diverges further and further north-east. The southern branch retains the title of the Cauvery. The latter is of more importance, as it splits into innumerable smaller streams and channels forming a close net-work of waterways that irrigate the whole of the district and forms the life-stream of the agriculture of the region under consideration. The fertility and the wealth of the Tanjore district are entirely due to and dependent on these channels. The name of the Cauvery persists to one of these channels to the very last stages of its journey. Near the sea, it becomes a very insignificant stream that presents a strange contrast to the Cauvery of the Mysore plateau, Salem and Coimbatore districts, and even of the Trichinopoly district. Here, at the mouth of the Cauvery stood the famous town of Kaveripatnam in very ancient days. It is situated about 8 miles north of Tranquebar. The surplus waters of the other channels enter the sea by several other streams. They are of varying importance. They are affected to a greater or smaller extent by the tides of the sea. The most important of these branches of the Cauvery are: The Vadavar, the Vettar, the Vennar, the Kodamurti,, the Uppanar, the Manikarnikar, the Manjavaikkal, the Mahimalayar, the Virasholan, the Vanjiar, the Tirumalairajanar the Arsalar, the Mudikondanar, and the Pamanaiyar. Besides these, there are many other smaller channels.

The two rivers mentioned above are both in the deltaic region. Outside this region, there are other rivers. Of them, the important ones are the Maharajasamudram, the Agniar, the Kottar and the Ambuliar in the Pattukottai taluk, and the Narasinga Cauvery and the Vellar in the Arantangi taluk. These flow only during the rainy season as they derive their waters from places high up in the eastern portions of the Presidency where rain is the only source of water-supply. A number of anicuts have been built across these rivers for the storage of water for irrigation purposes. As contrasted with the northern taluks, tanks and wells

are more numerous in number in this non-deltaic area. The inference is obvious. Even in the deltaic area, the main source of water-supply to the people in the summer months is the series of temporary springs and tanks and wells, as the flow of water in the rivers becomes low on account of the failure of water supply due to several reasons. Moreover, the recent construction of dams across the Cauvery at several places up the river by the Mysore and the British Governments has adversely affected the ryot, as these affect the flow of water below the dams.

Mention may be made of the fact that small boats, rafts, and make-shift floats travel a few miles up-stream, carrying cargo of varying importance and wealth. In ancient days, there were important harbours at the mouth of some of these streams, and a brisk sea-borne trade was carried on in the days of the Cholas. At the present day however, only three are worth notice :—(1) Topputurai Harbour at the mouth of the Adappar in the Tirutturaipundi taluk, (2) Tirumulaivasal at the mouth of the Uppanar in the Shiyali taluk and (3) Koraiyar connecting the harbour of Muthupet with the sea. In addition to these facilities for trade, canals connecting Negapatam and Vedaranyam, Tranquebar and Tirumulaivasal have been dug and are in use.

Of the eleven sea-ports in the district, no less than eight are open to foreign trade ; and this fact is an indication of the trading wealth of the district. Counting from the north, they are—Tirumulaivasal, Tranquebar, Negapatam, Velanganni, Topputurai, Point Calimere, Muthupet, and Adirampatnam. Of these, Tranquebar and Negapatam are very important as most of the trade with the Far East is carried on through these ports. While most of these places have good anchorage, places south and west of Point Calimere are more sheltered, particularly during the north-east monsoon, as is to be expected from the nature and position of the coast-line in this part of the district. Against this advantage, there is the fact that ships have to cast anchor a good distance away from the shore on account of the shoals which extend for about 2 to 4 miles into the sea. North of Point Calimere, the shoals are not present, and the ships can come much nearer. But, here again, the ground swell is very heavy. Cargoes have to be carried in boats and small vessels, from which they are transferred to the ships. On the whole, it may be said that the ports west of Point Calimere are worse for the reasons mentioned, and also because the rivers connecting with the interior are blocked by mud-shoals.

SOILS

An account of the physiography of the district will be incomplete without a mention of the type of soils found in the area under consideration. Four main types of soils occur in the district. They are (1) the regar or black soil, (2) the arenaceous or sandy, (3) the red-ferruginous and (4) the river alluvium.

Of these, the regar is the most preponderating, occupying more than 45% of the total area of the district. Of the remaining, the alluvium is naturally the greater in area and importance. It covers about 27% of the area of the district, while the remaining 28% is made up by the other two varieties. The red-ferruginous type is distributed mainly in the taluks of Pattukottai, Mannargudi, Tirutturaipundi and a part of the Tanjore taluk. A noteworthy feature is the fact that the Tanjore, Kumbakonam, and Mannargudi taluks are completely devoid of any kind of arenaceous soil, being wholly made up of river-alluvia. The alluvial has earned a well-deserved praise for its fertility. No manure was necessary, till very recently, to raise crops in this soil; and their quality did not deteriorate even after several succession of crops. The alluvium was deposited easily and quickly to a great depth in a comparatively short period of time; and even places which were once dry and waste could be converted into fertile fields by diverting any of the channels of the Cauvery. But times have changed. Man has interfered with nature's work. The building of several dams across the Cauvery at several places, with the noble object of increasing the arable land, has ended in disaster to the agriculturists of the deltaic area. The silt brought down by the river does not travel further down stream as it did before the construction of the dams. Hence, the quality of the alluvium brought by the river has changed, resulting in the non-fertility of the soil as compared with the former times. Manure has now become necessary to raise good crops successfully.

The arenaceous type occupies a very small percentage of the district being mainly confined to places adjoining the coast.

CONCLUSION

In conclusion, it must be said that, in spite of defects due to the absence of any hills or mountains, the district has a very enchanting and pleasant scenery. One who comes from arid and waste lands, cannot but carry back in his mind a very pleasant impression of the green and fertile land of Tanjore. Its ancient history, its numerous temples built on a very generous scale with their rich and beautiful carvings, its educational institutions, its culture, and the hospitality of the people of the district are all factors which have made it attain a very high position in the life of the Presidency.

A Note on the Geology of Tanjore District

By

K. S. Chandrasekharan, M.A., L.T.

Unlike the other districts of the Presidency, the geological structure of Tanjore is fairly simple. The essential material constituting the basal structure of the entire district is fluviatile alluvium resting on very ancient rocks of doubtful origin. This alluvium varies in composition, ranging from rich loam in the western districts to the brown sands of the coast, with all intermediate gradations between them. It need not be said that they are all of recent aqueous origin. This sedimentary series occurs in the deltaic region of the district, and is conformable.

This alluvium is met by the lateritic rocks on the western border, namely, in the Vallam region. The country in and around Pattukottai may be excluded from this area. Not far from the south bank of the Cauvery, the junction of the alluvium and the lateritic rocks takes place. But, as one proceeds eastwards, the belt of alluvium will be found to widen and the ferruginous rocks to dwindle in extent until they finally disappear altogether under the fluviatile accumulations. This area lies about twenty miles to the south-east of Tanjore. A branch of these lateritic and alluvial series extends due south of Tanjore as far as the State of Pudukotta. In the eastern direction, they are continued as far as Pattukottai, where the marine deposits overlie them. The disappearance of one facies and the appearance of another is gradual and without any sudden break.

Rocks of the Cuddalore sandstone series occur at Gandarvakottai on the Pattukottai border. This lies a little to the south-east of Tanjore and is about 12 miles away. The Cuddalore series of rocks are also of recent origin. They consist of hard, heavy sandstones, overlain by gritty varieties, of mottled colour. The most prominent of the mottled colours are a pale purple, yellow and rusty red. The lateritic rocks, referred to above, naturally overlie these sandstones towards the north.

The upland portion, or the Vallam tableland is somewhat important. Good and clear varieties of quartz, which are commercially valuable, are found in the large quartz veins of the metamorphic rocks. Their origin is rather obscure.

The erosive action of the sea is worth mention. The current near the coast-line is rather strong, and carries away the silt

brought by the sluggish streams. It was noticed some years back that the erosive action of the sea was so great as gradually to denude the deltaic area, which being loose and soft in texture, easily yields to the action of the sea. Hence, there is a constant conflict between the denuding action of the sea and the resistance of the land. This is noticeable at and near Tranquebar where, in the middle of the 19th century, more than four hundred feet of land was removed away by the force of the sea. Much money was spent to prevent further damage by erecting expensive groins. The three towns of Kaveripatnam, Tranquebar and Negapatam were seriously affected and damaged by such an action in 1849.

As can be inferred from the structure of the district, minerals are very poor in either quality or quantity. The lateritic rocks no doubt contain a fair amount of iron; but there is no industry of extracting iron developed at all.

The 'Vallam diamonds" next deserve attention. The principal varieties of quartz found are the pellucid rock crystal, the smoky quartz, cairngorm and the amethyst. A number of lapidaries eke out their livelihood by the work of cutting and polishing these stones which are in great demand for cheap jewellery. The clear transparent variety is used for making spectacles.

The lateritic rock is largely used as a building-stone and as road metal. This rock material is found in fair abundance in Vallam and Gandarvakottai, as already mentioned. It has a curious property which makes it valuable. When first quarried, it is flaky and friable in character, being composed of sandy clay, and highly ferruginous. But, when it has been exposed to the action of the atmospheric agencies for a short time, it becomes very hard and durable. It becomes covered with the hydrated oxide of iron which gives it a polished appearance and protects it from further change by external agencies for an indefinitely long period. Sandstones that are found near Vallam and Tanjore are also in demand as building material.

Limestone, called Kankar, occurs in fairly large quantities. It is found both in the crystalline bed-rock and in the alluvial beds. It is much sought after for the making of mortar and stucco.

Near the western border, i.e., west of Vallam, ochre of the yellow variety is spread over small patches of areas. Deposits of soda occur to the south of the Cauvery, near the Trichinopoly border. Gypsum of very poor quality is found to occur near Nagore.

The Climate of Tanjore District

By

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The climate of a region depends primarily on the position of that region on the earth's sphere, and on its physical features. As a preliminary to the study of its climate, regular daily observation and measurement of all the weather elements, as temperature, pressure, velocity and direction of winds, rainfall, etc., have to be taken in as many stations as possible in the region. These details are usually supplied to us by the meterologists. With the help of such data expressed graphically in maps, graphs, and block diagrams, in isotherms and isohyets, we are in a position to understand and properly estimate the climate of that region. We shall now turn to the study of the climate of Tanjore District.

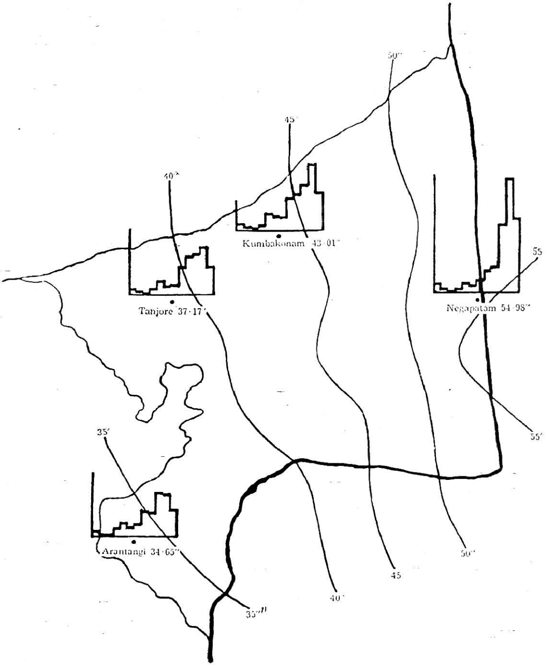
On the map we find the administrative district of Tanjore on the south-east coast of the Madras Presidency, lying between 9°50′ and 11°25′ N. Lat. and 78°47′ and 79°52′ E. Long. and having an area of 3,742 square miles. Bounded on the north by the River Coleroon, and on the west by the administrative boundaries of Trichinopoly and Ramnad districts, and the Pudukottah State, this district has a long comparatively smooth coastline on the east and south-east.

Although there are no marked differences in the physique of the district, still we can demarcate the delta of the Cauvery from "the upland tracts" of Tanjore, Mannargudi and Pattukottai taluks lying to the south and west of the delta. The Cauvery splits up into numerous branches in the delta, which is covered with a vast network of irrigation channels. The delta is a large alluvial even plain of waving paddy fields, and pleasant groves of cocoanut and mango, sloping gently to the sea. The rest of the district, though more elevated than the delta, is likewise an open plain, destitute of hills, except in the south-west of the town of Tanjore, where the country rises to form the Vallam plateau. The Vallam tableland is the highest part of the district, and even that does not rise over 168 feet above sea level.

There is only one Meteorological Station in the district, at Negapatam, which gives us the data for the temperature, pressure, wind velocity, etc., for the whole district. Rainfall is registered at

Annual Rainfall Map of Tanjore District.

Scale : 1 inch = 20 miles



25 stations all over the district, and that helps us to draw isohyets of average annual rainfall for the region. A number of tables and diagrams has been added at the end of this article, giving the Max. Min. and Mean temperatures, pressure, velocity and direction of winds and rainfall, which we shall explain and discuss now.

Table I gives us the monthly average, Maximum, Minimum, and Mean temperatures, as recorded in the observatory at Negapatam. The graph of mean monthly temperatures pictures to us clearly the spurt of steady increase of temperature from February to May. As observed, May and June are the hottest months. In June, when the hot south-west land winds prevail, the heat is very severe. After this the freshes in the river, and the occasional showers of the S. W. Monsoon tend to lower the temperature. As seen from the graph, temperature drops only gradually till September, for the sun is still overhead in the northern tropics ; and then begins to fall so rapidly, that the mean temperature in December is only 77·1°. The atmosphere is cool throughout the months of the north-east monsoon till about the end of January. But in February and early March, it is quite warm during the day, though cool at nights, and heavy dew falls. In the latter half of March, the hot season definitely sets in.

Although the temperatures given here are for Negapatam and therefore may be taken as typical of a coastal station, still we do not find any great change in the temperature of the taluks inland. If Trichinopoly may be taken as characteristic of the inland taluks of the Tanjore district, we find that the annual mean temperature at Trichy is 84·3° whereas at Negapatam it is 83·2°. But we should not wrongly suppose that there is no difference in temperature between the inland and coastal stations. For, the essential difference between the temperatures at Negapatam and Trichinopoly lies not so much in the annual average temperature as in the monthly and daily ranges of temperature which are indeed great at Trichy, because of its inland situation.

Table II gives us the figures for Negapatam of monthly pressure, velocity and direction of winds. As these figures are rather too generalised, we should interpret them with great caution. To begin with, figures giving the average monthly pressure for a station have very little value. It is only individual cyclones and anticyclones that really count in the measuring of wind velocity and rainfall. As may be seen from the tables, there is very little correlation between the monthly pressure and wind-velocity, except for the month of June. The pressure is 29·689″, and the wind-

velocity is 199·2 miles a day, *i.e.*, about 8 miles an hour. Despite this "cyclonish" appearance the rainfall at Negapatam for that month is only 1·3″, a very low figure, if not the lowest.

Regarding the direction of winds, it is interesting to notice the transition of the wind-direction from N.E. to S.W., in the months of March, April and May. We find that in those months the south-east winds give a little more rain to the stations near the Palk Strait, e.g. Kattumavadi, Muttupet and Pattukottai.

Now, we pass on to estimate the rainfall of the district. As already referred to, we have 25 stations registering rainfall, and that provides us with ample data to go upon. We have appended at the end, the figures of monthly rainfall (Table III) for all the stations, and also a rainfall map of the district with the annual isohyets marked thereon, besides a series of rainfall graphs for the typical stations, e.g. Negapatam, Tanjore, Kumbakonam, and Arantangi. The average annual rainfall for the district of Tanjore is 44·38 inches. The highest annual rainfall of 56·62″ occurs in the district at Tiruppundi in Negapatam Taluk, while the lowest of 34·65″ is had at Arantangi.

A curious feature found in all the rainfall graphs is the sudden spurt of rainfall in May, or a secondary maximum of rainfall, as it may otherwise be termed. This is characteristic of all the stations in the district, and these "mango showers" are due partly to thunderstorms, and partly to cyclones which occur between the change of the monsoons. More frequent in November than in May, such cyclones are recorded as having played great havoc in past instances, whenever they occurred.

As the rainfall map brings out, the greatest rainfall in the district falls on the coast, while to the west and south of it, rainfall decreases. Obviously in this case, rainfall is more due to cyclonic effect than to the orographic. This lends colour to the recent views on the south-west and north-east monsoons that they are really a part of the same cyclonic system. As we are aware, the Madras coast from Nellore to Tanjore is often subject to ravages of cyclones drifting from the Bay of Bengal and official records mention that Tanjore suffered from cyclones in Nov. 1681, Apr. 1859, Nov. 1871 and Nov. 1899. We find that 3 out of 4 have occurred in November. Many of us may still remember the cyclone havoc of October, 1930.

In conclusion, we may state that the climate of Tanjore fits it admirably to be one of the best rice-lands in the world. As the gazetteer affirms, Tanjore is not a famine district; it has been for centuries the garden of South India, and the Tamil saying "சோழநாடு சோறுடைத்து" is a very apt description of the land.

TABLE I

Average Maximum and minimum temperatures in degrees F. for Negapatam.

		Max.	Min.	Mean.	Range.
January	..	82·5	71·4	76·9	11·1
February	..	85·1	72·7	78·9	12·4
March	..	88·9	76·0	82·4	12·9
April	..	92·7	79·5	86·1	13·2
May	..	97·5	80·4	88·9	17·1
June	..	97·7	79·5	88·6	18·2
July	..	95·9	78·5	87·2	17·4
August	..	94·0	77·5	85·7	16·5
September	..	92·6	76·8	84·7	15·8
October	..	88·8	76·2	82·5	12·6
November	..	84·6	74·3	79·4	10·3
December	..	82·1	72·0	77·1	11·1
Annual	..	90·2	76·2	83·2	14·05

TABLE II

Average monthly pressure, wind velocity, and wind direction at Negapatam.

		Pressure in degrees.	Wind velocity in miles.	Wind direction.
January	..	29·929	129·6	NE
February	..	29·908	86·4	NE
March	..	29·862	86·4	SE
April	..	29·796	124·8	SE
May	..	29·723	177·6	SSW
June	..	29·689	199·2	SW
July	..	29·707	170·4	SW
August	..	29·733	136·8	SW
September	..	29·761	124·8	SW
October	..	29·811	88·8	SW
November	..	29·856	124·8	NE
December	..	29·904	163·2	NE

TABLE III

Average monthly rainfall in inches for stations in Tanjore District.

		Jan.	Feb.	Mar.	Apl.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Total.
1.	Shiyali ..	1·31	0·58	0·28	0·58	1·55	1·57	2·53	4·72	4·73	10·39	16·72	8·96	53·92
2.	Neidavasal ..	1·38	0·63	0·27	0·67	0·84	1·14	1·59	4·22	4·37	11·05	18·61	7·75	52·52
3.	Tranquebar ..	1·33	0·49	0·20	0·62	1·63	1·11	1·93	3·93	3·72	10·90	16·18	9·57	51·61
4.	Mayavaram ..	1·47	0·58	0·33	0·74	2·25	1·29	2·32	4·89	4·16	8·79	14·67	8·28	49·77
5.	Kumbakonam ..	1·06	0·61	0·33	0·80	2·58	2·20	2·09	4·93	5·51	7·15	9·96	5·79	43·01
6.	Papanasam ..	1·99	0·36	0·23	0·82	2·75	1·37	2·98	4·44	4·45	5·85	14·04	4·73	44·01
7.	Valangiman ..	1·36	0·39	0·09	0·71	2·37	1·65	1·88	5·43	5·41	6·59	11·70	5·35	42·93
8.	Kodavasal ..	1·50	0·64	0·20	0·93	2·26	1·34	1·76	4·42	5·55	7·42	12·54	6·93	45·19
9.	Nannilam ..	1·35	0·69	0·45	0·81	1·95	0·93	2·32	3·60	4·75	7·56	13·75	8·46	46·62
10.	Tiruvalur ..	1·58	0·76	0·46	0·96	2·05	1·52	1·81	3·93	4·34	8·57	13·62	9·73	49·33
11.	Negapatam ..	1·68	0·63	0·34	0·57	1·61	1·30	1·89	3·59	3·77	10·48	17·72	11·40	54·98
12.	Tiruppundi ..	2·43	0·59	0·37	0·72	1·64	1·22	1·69	3·31	4·38	9·78	19·42	11·07	56·62
13.	Vedaranniyam ..	1·79	0·47	0·53	1·47	1·61	1·08	1·70	3·18	4·07	10·18	18·06	10·21	54·35
14.	Tirutturaipundi ..	1·27	0·73	0·43	1·07	1·76	1·21	1·96	4·05	4·33	7·74	13·17	8·18	45·90
15.	Muttupet ..	1·26	0·67	0·62	1·65	2·16	1·41	1·68	4·28	4·46	8·07	10·31	7·44	44·01
16.	Mannargudi ..	1·13	0·72	0·35	1·12	2·12	1·70	2·27	5·02	5·59	7·74	10·33	6·91	45·00
17.	Nidamangalam ..	1·20	0·60	0·33	1·01	2·76	1·54	2·52	5·02	5·40	7·30	10·24	6·75	44·67
18.	Tiruvadi ..	1·01	0·49	0·22	1·02	2·59	1·57	1·82	4·43	5·30	6·39	7·52	4·18	36·54
19.	Tirukattupalli ..	1·61	0·52	0·24	1·05	2·45	1·25	1·52	4·77	5·65	5·86	8·46	3·25	36·63
20.	Tanjore ..	0·96	0·49	0·33	1·08	2·17	1·81	1·97	4·36	5·84	6·20	7·40	4·56	37·17
21.	Vallam ..	0·90	0·52	0·33	1·00	2·63	1·85	2·10	5·07	5·99	6·79	6·92	4·67	38·78
22.	Pattukottai ..	1·08	0·65	0·51	1·56	2·09	1·70	2·12	4·58	3·99	7·03	8·82	6·12	40·25
23.	Adirampatnam ..	1·66	0·52	0·33	1·07	1·54	1·12	2·56	4·08	4·40	7·20	10·12	4·96	39·56
24.	Kattumavadi ..	1·20	0·70	0·47	1·57	1·61	0·95	1·71	3·24	3·81	7·25	8·21	5·37	36·09
25.	Arantangi ..	0·89	0·38	0·36	1·29	2·13	1·40	2·09	4·13	4·10	6·83	6·76	4·29	34·65
	Dt. Average ..	1·37	0·03	0·34	1·00	2·06	1·42	2·03	4·30	4·72	7·94	12·19	6·98	44·38

News and Notes

This number of the Journal contains the Proceedings, Addresses and several of the Papers of the *Seventh Geographical Conference* held at Tanjore in May last. As the remaining papers have not been quite ready for publication, they will be included in the next issue.

* * * * *

It is interesting to note the increasing importance and popularity of these Annual Conferences of the Association in which several aspects of the Geography of the particular Districts are being taken up for study by Specialists—from within the Districts as well as from outside. In these Conferences, an intelligent and sympathetic audience is assured not only of the teachers of Geography but also of teachers of other subjects as well, as the main Educational and other Conferences take place at the same time.

* * * * *

More important is the fact that more and more of the mofussil members of the Association are realising that it is the one function of the Association in which they can take part conveniently and profitably more than any of the others held at the headquarters. For one thing, it is vacation time. Again, other Conferences in which they are all interested occur at the same time. Further, as the venue of the Conference changes from year to year to several Districts in turn, there is a freshness and novelty about the places visited. To add to this, railway companies have started issuing Go-as-you-please tickets even for summer vacation, which have been taken advantage of by several members in the last Conference.

* * * * *

Of the Seven Conferences so far held, except that at Anantapur, all the other six, have brought a large contiguous area in South India under the purview of the District Studies. It is decided to hold the next Conference in South Kanara, which completes the gap on the West Coast.

* * * * *

As the Tamil Geographical Terms Committee of the Association has completed its labours and has handed over the result of its labours to the Madras Presidency Tamil Sangam for publication, it is now proposed to get corresponding terms for the list already prepared, in the other South Indian languages. It is likely

that the Canarese Geographical Terms Committee will be constituted first as the call has recently come from South Kanara.

* * * * *

Mr. G. Narayanaswami Ayyar, Secretary of the Coimbatore Branch, having been transferred from the place, Mr. C. S. Subburatnam, Geography Assistant of the Municipal High School, has been appointed Secretary of that branch. We are sure its activities will be carried on by the new Secretary with equal capacity and zeal.

* * * * *

Reform in the teaching of Geography has been taken on hand for some years in the High School and of late even in the Middle School; but the Elementary School has not hitherto been thought of in any systematic and comprehensive manner in that connection. We were, therefore, specially grateful to the good work that Mr. D. Samuel, District Educational Officer, Tinnevelly, has been doing in recent years by arranging for the annual Refresher Courses in Geography at Ambasamudram for the benefit of Elementary and Secondary Grade teachers, taking advantage of the availability of a veteran teacher of Geography in the locality in the person of Mr. T. S. Sundaram Ayyar.

* * * * *

We are now very pleased that another District Educational Officer, Mr. N. Sarangapani Ayyangar, who arranged for Refresher Courses in several subjects at Cuddalore and Villupuram during May last, utilised the services of a qualified and experienced teacher of Geography, Mr. G. Narayanaswami Ayyar, M.A., L.T., Dip. in Geo., who was available on the spot to give two useful courses of lectures on the teaching of Geography to the Elementary School teachers. We learn that these lectures were very comprehensive dealing with all aspects of teaching the subject in Elementary Schools and were highly appreciated.

* * * * *

Reform in the teaching of Geography in the Middle School classes has recently come in very forcibly through a modernised Scheme of Work and Syllabus issued by the Educational Department in accordance with which text-books have been pouring into the market. The Association has been paying special attention to help the Middle School teacher in the Summer Schools held in recent years. But the Middle School teacher of Geography is not usually a specialist in the subject. It is, therefore, necessary that the High School Teacher of Geography should help and guide his colleagues handling the subject in the Middle School.

* * * * *

To meet the general complaint that the S.S.L.C.-A Group Syllabus in Geography was heavy, the Board has recently lightened it considerably—partly by dropping a number of particular items and partly by omitting completely Part IV dealing with World Regions. Another desirable change in it has been the substitution of 1934 Syllabus on India for the earlier one, as the former is more regional with emphasis on the study of the Home Region.

* * * * *

In the High School, things have been steadily improving during the last half a dozen years and more. Syllabuses have been modernised and lightened as explained above, text-books have been published, equipment is being improved, and above all more and more trained teachers are being appointed. But unless the teaching of the subject in the High School is carried on in the mother-tongue, we are convinced, that the pupils will not get the best out of it. Whatever difficulties there may be in the way will have to be faced boldly ; and the subject should be taught through the medium of the mother-tongue only, for the sake of efficiency.

* * * * *

So long as the marks in History and Geography of the S.S.L.C. candidates continue to be shown as a single total, without the two marks being entered separately also in the marks registers, pupils and teachers will both be at a disadvantage. Pupils would like to know how they have fared in each subject ; and the efficient teacher fails to get due appreciation for good work done, while the shirker escapes scot-free—whether he is a teacher of History or of Geography. Representation has again been made to the authorities ; and it is hoped, that the suggested change in the marks book will be effected even in the current year.

* * * * *

C. Group (Optional) Geography has been so far provided for only in a few girls' schools only, for the simple reason that only women's colleges have so far provided for the teaching of the subject at the Intermediate stage. Unless the subject is more generally taught, both as a C. Group subject and in the Intermediate classes,—Geography cannot be said to be fairly well established in the Educational systems of South India, nor can it develop as a Degree subject, though the University Calender may contain regulations regarding B.A. Geography.

Last year the Board of Studies in Geography of the University of Madras recommended that those teachers who have passed the Intermediate Examination and undergone the Diploma Course in Geography may be permitted to sit for the B.A. Examination in Geography, as they have gone through the necessary training in Practical Work in their Diploma Course. The University authorities did not accept it then. It is now understood that the Standing Committee of the Academic Council have decided that there can be no objection for granting the concession.

* * * * *

It is hoped that the Department of Geography of the Madras University, which is now functioning purely as a Teaching Department will be converted soon into a Research Department also and placed on a permanent basis with a separate sectional library of its own. It will then be possible to attach the Research Students to the Head of the Department who can then guide and supervise their work. Seeing that the managements of the various Colleges have been rather tardy in providing for the teaching of Geography in their institutions, it is incumbent on the University to make up for this neglect by making extra provision for a Subject that has unfortunately been too late in getting due recognition and a status in the Universities of this country.

* * * * *

Reviews

The Kharias. 2 Vols.). By Sarat Chandra Roy. ("Man in India" Office, Ranchi), 1937. Price Rs. 11.

These two superb volumes by the well-known Bengali Anthropologist is the outcome of twelve years' study of the life and customs of the Kharia tribes, which have been classed among the "Munda" or "Kolarian" group of the aborgines of India.

The opening chapter dealing with *Habitat and Population* brings out clearly the distinguishing Geographical features of the three adjacent areas occupied by the three Sections of the Kharias. The remaining chapters deal comprehensively with all aspects of life, manners, organisation, and culture of these tribes in their three divisions.

In the last chapter Mr. Roy concludes that "the three divisions of the Kharias represent approximately three successive levels of primitive culture in the Central Belt of India. Differences in Geographical and Social Environments and Political History in their respective past and present habitats would appear to be mainly responsible for the existing differences in their cultural progress." The whole book is in fact an intensive study in human ecology within a single and manageable area.

A systematic work presenting the results of thorough research on right lines by a master of the subject—it has won the approbation of Dr. R. R. Marett of Oxford, who after laying down in his Foreword the main method of study in Social Anthropology, observes "Mr. Roy's work is a model of how such research should be conducted."

The volumes are well got up, printed on thick paper and contains a map and numerous illustrations.

An unhappy slip in a masterly work is the use of the word 'mensuration' for 'menstruation' on page 203, which, no doubt, will be corrected in the next edition and a correction slip issued for this.

New Era Geographies—Book II: Australia, Asia and Africa. By V. F. Searson and Frederic Evans. (W. & A. K. Johnston, Edinburgh and London). 1937.

This is the second of a graduated series of books intended to cover a three years' course. The first one dealing with the

Americas and this one dealing with the three continents of the Indian Ocean basin cover lands that lie on both sides of the Equator. Direct simplicity of presentation, vivid glimpses of real human life and of sights and scenery calculated to awaken interest, graduated material with psychological rather than logical approach to the subject, due emphasis of physical background at appropriate places and suitable references to racial considerations—are some of the chief features of this attractive series of books. Graded exercises given at the end of each chapter serve as tests on work done and are mostly intended for individual work. A neat and attractive get-up with copious maps and illustrations enhance the value of a High School book on Geography that can be adopted for use whatever the order of continental study may be.

Secondary School Geography: Section I—The Three Southern Continents, North America and Eurasia (Excluding India). By L. D. Stamp. (Longmans, Green & Co., Ltd., London.) 1935.

This is a reprint of an earlier edition of the text-book of Geography already reviewed in a back number of this Journal. To suit the recent departmental change of syllabus in Madras, Regional Geography of the Continents (excluding India) has been bound into a separate book, omitting the General World Regions of Part IV of the original syllabus, that has been removed from it. The book retains all the specially valuable features of the earlier edition.

Food, Clothing and Shelter. By L. McD. Robinson. (Macmillan & Co., Ltd., Madras). 1937. Price 10 annas

This is the first of a series of Elementary Geography books, written from the point of view of teachers and pupils living in the tropics, with little or no experience of varying lengths of daylight during the year, of the intense cold and stoppage of plant life during winter and of any industrial process. Though Ceylon has been used as the home of the pupils, any other part of the tropics may serve as well, as the variations in seasons are expressed more in differences of rainfall than of temperature and where the same foodstuffs, clothing and shelter are commonly found.

Another novel feature about the book is the division of each lesson into two parts, combining teaching and learning. Facts given under Part A for pupils to acquire as Geographical Knowledge

are tested in Part B in the shape of exercises, which serve to fix the knowledge acquired earlier.

The book aims at giving some Geographical training to pupils in primary classes for later application to problems of ordinary life. Big bold type and numerous choice pictures, maps and diagrams make the book attractive and useful to children. It can be generally used with advantage in South Indian Schools, if it is translated into Tamil and other local vernaculars.

Geography of the Madras Presidency. (Telugu). By N. Subrahmanyam. (Longmans, Green & Co., Ltd., Madras). 1937.

This is the third edition of a book already reviewed in a back number of the Journal. Some of the earlier maps and illustrations have been replaced by better ones, and the matter revised and brought up-to-date.

Yogi's A One-Hour Revision of Geography. By Y. Rama Yogi. 1937. Price 6 annas.

Testing is the correlative of teaching; and though it is desirable that every teacher should prepare his own test papers, the average teacher who is hard up for time will find the ready-made papers in this brochure quite handy for his purposes—especially as they follow the recent model of the S.S.L.C. papers. These papers are set on 'Fundamentals of Georgraphy,' 'Survey of the World,' each of the Continents and India; besides three model test papers. Part B contains answers for the several papers.

Satya Geographical Exercise Book for Form IV. By G. P. Williams. (Satya Publishing House, Nazareth.) 1937. Price 8 annas.

This is a map-filling exercise-book, prepared for Form IV in accordance with the S.S.L.C. Syllabus in Geography of the Madras Educational Department. Besides suitable instructions under each of the outline maps, suggestive and stimulating exercises are given calculated to provoke thought and impress the facts learnt. The use of such map-filling work in the teaching of Geography should become more common than it is now.

Books and Journals Received

The Kharias. : By Sarat Chandra Roy.

Australia, Asia and Africa : By V. F. Searson and F. Evans.

Food, Clothing and Shelter (Book I) : By L. McD. Robinson.

Secondary School Geography : *The Three Southern Continents, North America and Eurasia* (*Excluding India*) : By L. D. Stamp.

Man and His Life (Books 1 to 3) : By M. R. Subrahmanyam.

Geography of the Madras Presidency (Telugu) : By N. Subrahmanyam.

Satya Geographical Exercise Book for Form IV : By G. P. Williams.

Yogi's A One-Hour Revision Geography : By Y. Rama Yogi.

The Hallefors Dolerite Dike and Some Problems of Basaltic Rocks : By Torsten Krokstrom.

The Geographical Magazine : May, June and July 1937.

Kalaimagal : May, June and July 1937.

The Indian Educator : May, June and July 1937.

The Geographical Journal : May, June and July 1937.

The Scottish Geographical Magazine : May and July 1937.

The Educational Review : May, June and July 1937

The South Indian Teacher : May, June and July 1937.

Geography : June 1937.

Educational India : May, June and July 1937.

The Himalayan Journal : Volume IX—1937.

Quarterly Journal of the Mythic Society : April and July 1937.

Journal of Indian History : April 1937.

Journal of the Annamalai University : May 1937.

Thamizh Thayi : Volume III, No. 2.

The Geographical Review : April 1937.

Proceedings of the Royal Geographical Society of Australasia—(South Australian Branch) for the Session 1935—36—Vol. XXXVII.

The Indian Co-operative Review : April-June 1937.

Indian Culture : July 1937.

Problems of Physical Geography : IV (U.S.S.R.)

Indian Journal of Economics : July 1937.

The Karnataka Historical Review : January-July 1937.

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Objects.

2. The objects of the Association shall be :—
   - (a) To promote and diffuse geographical knowledge ;
   - (b) To secure for geography its proper place in schools, colleges and universities ;
   - (c) To help to improve the methods of teaching geography ;
   - (d) To help geographical studies about India.

3. These objects shall be secured by :—
   - (a) Holding meetings and conferences ;
   - (b) Publishing a Journal and other occasional publications;
   - (c) Organizing geographical exhibitions and excursions ;
   - (d) Helping in the preparation of geography books in the languages current in India ;
   - (e) Forming a central library of geographical literature, and collecting maps, charts, plans, models, slides and instruments ;
   - (f) Providing for circulation to members of books, periodicals, and other collections ;
   - (g) And by such other ways as are deemed necessary to promote the objects of the Association.

Membership.

4. The membership of the Association shall be open to all those who are interested in the promotion of geographical knowledge.

5. There shall be two classes of members, full and associate.

6. Full members may be honorary, life or ordinary.

* * * * * * * * * *

9. A person shall become an ordinary member or an associate member upon the proposal by a full member, the seconding by another full member and approval by the Executive Committee by the majority thereof present at its meeting.

10. An ordinary member shall pay an entrance fee of rupees two along with his application for membership and an annual subscription of rupees six.

11. Associate members shall be exempt from any entrance fee ; and they shall pay an annual subscription of rupees two.

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